

Editorial Notes.

THE PHARMACEUTICAL COUNCIL AND THE "CHEMIST AND DRUGGIST."

THE official reproof administered to this journal by the Council of the Pharmaceutical Society, which will be found in our record of the proceedings at their last meeting, undoubtedly deserves and has had our most respectful consideration. It is impossible for us to reply to that reproof in a perfectly candid manner, or in exactly such words as we should choose to adopt voluntarily, because Mr. Carr (our comments upon whom have evoked this reproof) has announced his intention to take legal proceedings against the writer of those comments, and thereby to some extent challenges our right to criticise him as a pharmaceutical Councillor unfavourably. We can do no more therefore than in general terms reiterate our argument that if the proceedings of the Council were fully reported, the Pharmaceutical Society would have the best means of judging who were and who were not, its most faithful and most valuable servants, and would not depend on a manifesto emanating from the Council itself. Unless the best men in the pharmaceutical ranks are elected to the Council-board, a seat there will soon cease to be regarded as an honour; and we conceive that it is of importance that it should be always so regarded. In reference to the same paragraph in this journal, which called forth the rebuke we have named, Mr. Joseph Ince has thought fit to publish a short note in the *Pharmaceutical Journal* of March 23rd, in which he somewhat violently asserted that he did not write it, and that he had not the remotest knowledge of it until it appeared. We beg to corroborate this assertion. Mr. Ince is naturally jealous of the high pharmaceutical reputation which he has most worthily won, and recognising that, we shall forbear to comment on the terms in which he couched his note. But inasmuch as that note, hastily written, gives the reader an impression that the article in question ought to have been submitted to Mr. Ince before publication, it is due to ourselves to state, that Mr. Ince has not, nor ever has had, any share in the management of this journal. He has always been a most respected contributor, and to that extent his connection with us has been limited. Finally, we may express the hope that we may some day find a more manly form of attack in our contemporary than appeared in the boarding-school-young-lady editorial on this matter which "sympathized with" Mr. Ince "in his affliction!"

JURY SERVICE.

We may congratulate the trade on the sudden and somewhat unexpected accession of strength to what we may call "our" side in the agitation for the extension of exemption from jury service to all registered chemists and druggists. We notice with much pleasure that at the last meeting of the Pharmaceutical Council a resolution was passed unanimously, to the effect that the Parliamentary Committee should urge on the Attorney-General the claims of all registered chemists and druggists to this advantage, in the hope that he will consider those claims in his promised Juries Bill. We have been very earnest in the advocacy of this deed of simple justice; and we have therefore observed this movement on the part of the Council with lively pleasure. Representations from them, as the official governing body of British pharmacy, will be of special weight; and there is good chance that their efforts will be successful.

Whether they are or not, the "outside" trade will appreciate the honourable sentiments expressed in the Council by Messrs. Bottle, Williams, Sandford, and Betty.

In regard to this subject we may also quote the opinion expressed thereon by the *Medical Press and Circular*. It is encouraging to find that the reasonableness of our request is recognised by one of the organs of medical opinion. Our contemporary, referring to the agitation in our journal on the subject, thus wrote:—"The trading chemists of England are prosecuting a movement for the introduction into a Bill promised recently by the Attorney-General, of clauses exempting them from jury service; and the representatives of the trade seem to entertain strong hopes of a favourable consideration of the proposal. The dispensing chemists seem to us to possess a very strong *prima facie* case in their favour. Medical men are exempted in consideration of the importance of their functions, and the dangers which would accrue to their patients if they were delayed in their attendance on them. On the same ground dispensing chemists should be exempted because their duties cannot always be transferred to another person, and the neglect of their functions is attended with danger to the community. It is certainly an anomaly that a pharmacist should be expected to leave the making-up of medicines to his shop assistant while he is engaged on duties which could be discharged equally well by others."

THE CHICAGO COLLEGE FUND.

We have the pleasure to direct attention, for the last time before it closes, to this fund, and to the official statement which we print below. Those who would still wish to share in this international expression of courtesy will note that the time is short in which any further subscriptions can be received. We shall publish the final list in our next number. The following is the statement referred to:—

On behalf of the Committee Professor Attfield begs to announce that the lists of contributors to the Chicago College Fund will be closed on the 30th of April. The cash already received is £450, and the value of the books and specimens presented at least £100; total, £550. After all expenses of printing, postage, and freightage are paid, the sum of Five Hundred Guineas will represent the response of British Chemists and Druggists to the appeal from their brethren of Chicago for aid in replacing the two thousand pounds' worth of books, specimens, apparatus, and furniture destroyed with the College by the great fire of October 8 and 9, 1871. This is irrespective of subscriptions to the public fund for the general benefit of Chicago, a movement in which English pharmacists gladly and fully shared. A list of all the useful English books on Pharmacy, Chemistry, Materia Medica, and Botany, has been compiled by help of catalogues of large libraries and those issued by publishers; these and other volumes of the total value of about two hundred and fifty guineas will at once be transmitted to Chicago. The remaining two hundred and fifty guineas will, probably, for the most part, be expended in apparatus and specimens for the illustration of lectures; but the wishes of the Council of the College, and the nature of the recent presents to and purchases for the Institution, will necessarily guide the committee of the fund in completing their stewardship.

THE SIDMOUTH ACCIDENT.

THE trial of a chemist for manslaughter at Exeter, which we report on another page, is instructive in several particulars. With the young man himself we are sorry that we can express but scant sympathy. His mistake was a glaringly careless one, and his defence was ingenious but not ingenious. His advocate skilfully induced the judge and jury to assume that the usual way of describing muriato of morphia in a prescription was by prefixing the word "sal," a definition which we need not say is most unusual, if not entirely unknown. Here let us add one word of advice to young dispensers. Let them once and for ever establish a rule that, no matter how pressing business may be at the moment, they will never part with any medicine which they may have dispensed, without allowing themselves at least a minute quietly to review their work. Such a habit once formed will be of immense service with regard to dispensing, and in many other matters too.

With regard to the caligraphy and language of physicians' prescriptions which were severely commented on both by counsel and judge, we would point out that neither of those gentlemen were at all competent to give an opinion off-hand. The counsel of course had good reason for making this subject a feature of his speech, but Baron Bramwell had no such excuse. The tradition that prescriptions are as a rule almost undecipherable is quite erroneous; the rule is quite the other way. Of course every dispenser meets with occasional difficulties in the way of handwriting, and we have never hesitated to condemn the practice which only a few physicians adopt, of prescribing remedies unknown, except to the initiated. But as a rule prescriptions are written in such a hand that no gentleman need be ashamed of, and which any fairly-educated pharmacist should be able to read. As to the language, we may say that if Baron Bramwell could, as he says he would, compel all prescriptions to be in a tongue which could be "understood of the people," he would cause an amount of annoyance and danger of which he has no conception. To say nothing of the difficulties which in that case would occur to travellers, it will be quite evident to the learned Baron, if he will consider it, that a tendency for every man to be his own dispenser would be a tendency which would result in injury to others of Her Majesty's subjects besides dispensing chemists.

A NEW BLEACHING PROCESS.—An improved method of bleaching has been introduced by M. Pubetz, of Prague. He first prepares a vat in which 4 kilogrammes of permanganate of potassa or soda (soda generally being lower in price) have been dissolved, and to this $1\frac{1}{2}$ kilos. of sulphate of magnesia dissolved in water. The colour of the liquid is then a very fine violet. These are the relative proportions for each 100 kilos. of wool, flax, or cotton goods to be bleached. A sulphurous acid bath is also prepared, containing 30 volumes of the gas to each volume of water. This bath must be heated to 25° C. when it is used. The thoroughly cleansed materials to be bleached are first kept in the permanganate bath for a quarter of an hour, on being withdrawn from which they are found to be covered with a deposit of peroxide of manganese, the bath at the same time losing its beautiful hue. They are then plunged in the sulphurous acid bath, which reduces the peroxide of manganese to the state of protoxide, the salts of which, being very soluble in water, are readily removed by subsequent washing. If the yarns or fabrics resist the bleaching process, they should be treated with dilute hydrochloric acid, containing 1 part commercial acid to 20 parts of water. This process of bleaching by alkaline permanganates deserves attention, and particularly because it affords a means by which even indigo may be discharged by a series of successive bleachings, leaving the stuff fit for re-dyeing.—*Boston Journal of Chemistry*.

Foreign Correspondence.

GERMANY.

DRESDEN, April, 1872.

THE *Pharmaceutical Journal* of January 20 made a statement to the effect that a new law regulating the position of pharmacists, their assistants and apprentices, had taken effect in Germany, and then continued, in homage to the fallen power, to give an outline of the old edict. Now, with all due respect for the representative journal of the Pharmaceutical Society, I cannot help remarking that the writer of the article in question is evidently labouring under a great mistake. Nothing of this sort is known in Germany. Prussia still enjoys, if I may be allowed to say so, the old *Apothekerordnung* of 1725, and revised regulations of 1801; and each of the other German States, with a pertinacity deserving the admiration of our age and posterity, clings to its particular *Apothekerordnung* with some peculiarities in it, the usefulness of which the superior wisdom of the particular medical department alone is able to appreciate. I am quite at a loss to account for the way in which this misunderstanding may have originated.

It is true a new Act, binding for the whole German Empire, is under contemplation, and has become a matter of necessity, so much more, as in some months to come, the new Pharmacopœia will take effect in Germany; and under these circumstances it would be absurd to let exist much longer the dozen different Pharmacy Acts. But the Government has not yet laid such a law before the Reichstag, and considerable time will elapse before the new Act will be passed.

What renders the elaborating of a new law extremely difficult, is the feeling that a new *Apothekerordnung* cannot come off without a pharmaceutical reform, and the question of free trade, or the maintenance of protection for ever must now be decided, and if the Government's resolution falls in favour of the first course, other important questions in connection with it have to be settled; above all, the compensation due to the present proprietors of privileged businesses, and how owners who are merely holders of a licence are to be treated.

It will be remembered that it was intended to hold the fourth International Pharmaceutical Congress, 1874, in St. Petersburg. Now it has been proposed to abandon this plan, and let the meeting take place next year in Vienna during the exhibition. This suggestion is a very reasonable one, as doubtless the exhibition will exercise a great attraction, and induce many chemists to go there. Reduced railway fares may be expected, and, besides, St. Petersburg is a place somewhat out of the way for tourists of limited means and time, as is generally the case with chemists. But the most important feature in favour of the intended change, is the consideration that at that time several other international meetings will be held, among them one of physicians, and it is very desirable that some questions should be discussed by the combined congresses of physicians and chemists, e.g., propositions for an international pharmacopœia.

At the same time the German chemists intend, in common with their foreign brethren, to argue the free-trade question. If it is allowed to express my own opinion, I believe this latter part of the programme had better be dismissed, for it is so decidedly a home affair, that it can hardly be laid before an international congress, and if the German chemists expect to meet with much sympathy on the part of their visitors in their endeavours to keep up the government protection afforded here to pharmacy, I am afraid they will find themselves badly disappointed. To be sure the greatest part of the foreign chemists cannot evince an interest in a question which, for them, has been settled long ago, perhaps the only interest they could feel would be that of a spectator seeing Don Quixote fighting the windmills.

Two most distressing cases of fatal poisoning have lately occurred in Berne, Switzerland, ending with the death of two women, confined in one of the hospitals there. The unhappy victims met with their deaths by an accidental administering to them of muriato of morphia, which has been prominent here in poisoning cases, instead of muriato of quinine. Inquiries immediately made, elicited the startling and almost incredible result that the whole stock of

muriate of quinine supplied to the hospital by the chemist consisted entirely of muriate of morphia. It is not said whether other besides these two, nor how many cases of poisoning have been caused by this "mistake." At first it was asserted that the blame for this fearful negligence was to be attached to a well-known chemical manufacturer in D—; but this report, on careful examination, turned out to be unfounded, and at present this matter is not quite cleared up, leaving the question who originally caused the fatal mistake, to the criminal courts. One naturally enough asks, Might not this disastrous accident have been avoided, and the lives of two mothers saved, if the head of the establishment which supplied the hospital had been in the habit of carefully examining drugs and chemicals bought by him? This sad event shows, in a striking manner, what dreadful consequences may arise by putting implicit confidence in wholesale druggists on the part of dispensing chemists; and alas it must be admitted that the practice of receiving drugs and chemical preparations and using them, even when of a costly nature and powerful effect, without testing them, prevails to a larger extent than is generally admitted. To avoid such dangerous mistakes it has been proposed to manufacture muriate of morphia in form of a crystalline powder, which is easily distinguishable by the eye from the crystal-needles of muriate of quinine. I think it is not inopportune to point out another source from which, under certain circumstances, poisoning cases may arise. I mean the custom of keeping calomel powders ready made for a length of time. If the chemist doing this would take the trouble of examining them after some time, he would discover that these powders contain some corrosive sublimate of mercury. Especially is this the case with powders containing, besides sugar, bicarbonate of soda. Pepsin has not so much tendency to the formation of bichloride of mercury, but forms with it an insoluble compound. To detect the sublimate the suspicious powders are shaken with ether, and then the ether poured on sulphuretted hydrogen water. The presence of sublimate is indicated by a brown layer being formed at the surface of contact.

In Böttger's pol. Notizbl. a convenient method of examining balsam of Peru is given. As your readers well know, the best test of the purity of balsam of Peru is its specific gravity, which ought to be between 1.14 and 1.16. The difficulty of taking the specific gravity is best overcome by making a solution of one part of chloride of sodium in five parts of water, the specific gravity of which is 1.125. In this liquor a drop of Peru balsam, if pure, ought to sink down. Of four sorts as met with in commerce, only one proved unadulterated.

In my last letter I mentioned that vinum pepsini had become official in the new German Pharmacopœia. Dr. Liebreich, of Berlin, is the author of the formulæ, and for some time past the chemical manufactory of Lohering has prepared this wine according to Dr. Liebreich's formula, and sold it to a large extent. Here is the recipe:—Take pork stomach or runnet of a bullock, immerse it in cold water and wash carefully, then scrape off the peptic mucus from the mucous membrane by means of a bone-knife, and mix accurately 100 parts of the mucus with fifty parts of glycerine, previously diluted with fifty parts of water. Bring the mixture in a bottle and pour on 1,000 parts of white wine and five parts of hydrochloric acid, and shake well. Macerate for three days at a temperature not exceeding 20° C., shake occasionally, and then filter. A clear, yellowish liquor, of vinous taste, a little acid.

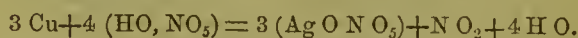
A QUEER CASE.—Dr. H. Vogel, writing from Germany to the *Philadelphia Photographer*, relates a queer case. A photographer made pictures of two brothers, who refused to take or pay for them on the ground that they were not likenesses. The artist complained, but the judge was of the same opinion as the brothers, and decided that the pictures were not likenesses. Mr. Photographer then went home with his rejected pictures and placed them in his show window, with the label, "The murderers of Mrs. X." The brothers then waited on the artist and alleged that it was a libel to expose their pictures with such a title, and, on his refusal to remove the placard, they entered suit. It remains to be seen how the judge will decide in this new phase of the affair.

AMERICAN EXAMINATIONS.

OUR New York Correspondent has obtained for us a series of questions which formed one of the examinations of the short-lived Board of Pharmacy in that city. We here subjoin them:—

QUESTIONS ON CHEMISTRY.

1. What are the common impurities in spring and river water, and whence are they derived?
2. What are mineral waters, and what are some of their most characteristic constituents?
3. What is the composition of the atmosphere, and what its relations to animals and plants?
4. Give the composition, mode of preparation, and the properties of nitrous oxide.
5. How is sulphurous acid found, and what properties make it useful in the arts?
6. What are the two most important applications of Chlorine, and in what forms is it applied?
7. What is Aqua Ammonia, and how is it prepared?
8. Write the symbols for the following compounds:—Chlorate of Potassa, Terchloride of Antimony, Ternitrate of Bismuth, Sesquioxide of Chromium, Pentachloride of Phosphorus.
9. Write out the names of the following compounds:
 Al_2O_3 , 3SO_3 — KCy — KO , 2CrO_3 — Hg_2O , NO_5 — 2PbO , A.
10. Explain the reactions represented by these equations:
 $\text{FeS} + \text{HO}_3\text{SO}_3 = \text{HS} + \text{FeO} + \text{SO}_3$



11. Calculate the percentage composition of Chloroform, C_2HCl_3 .
12. How many Troy ounces of Silver are contained in one Avoirdupois pound of Nitrate of Silver?
13. How is Hydrate of Potassa prepared, and how can we determine the strength of its solutions?
14. What is the source from which Ammonia and its compounds are now generally obtained?
15. What is Bleaching Powder, and how is it formed?
16. Give the composition, mode of preparation, and distinctive tests, for Calomel and Corrosive Sublimate.
17. Give the chemical principles of Photography.
18. How is starch converted into grape sugar, and how does it differ from it in composition?
19. What is the composition of Gun Cotton, and why is it explosive?
20. What are the different kinds of fermentation and their products?
21. What is the action of sulphuric acid on alcohol?
22. What is fusil oil?
23. What is the chemical composition of fats and soaps?
24. What is Prussic Acid, and how is it prepared?

QUESTIONS IN PHARMACY.

1. What is Pharmacy?
2. What relation does Pharmacy bear to Medicine?
3. What is the difference between a Pharmacist and a Druggist?
4. What is the difference between the Troy Grain and the Avoirdupois Grain?
5. What is the weight of a minim of distilled water at 60° F.
6. What is the relation between minims and drops?
7. What is the standard of the metrical system?
8. What is the equivalent of this standard in the English system?
9. What are the units of weight and measure of the metrical system?
10. What are their values or equivalents in the English system?
11. What is specific gravity?
12. What is the equivalent in F. degrees of 10° C?
13. What is the proper angle of a funnel for filtration?
14. What is distillation?
15. What is the difference between distillation and evaporation?
16. What is the meaning of the expression "boiling point?"
17. What is the meaning of the expression "vaportension?"

18. What is percolation?
19. What is repercolation?
20. What is the meaning of the expression "powder No. 20?"
21. What kind of mills are used for making the finest powders?"
22. What is the chief cause of injury in powdering drugs?
23. What is the best hand mill in common use?
24. Why are powdered drugs not trustworthy?
25. How many mixtures of alcohol and water are official in the U. S. P., and what are their titles and sp. gr.?
26. How much morphia should opium contain to make it official?
27. What is the natural impurity in bitartrate of potassa?
28. What is the common adulterant of bitartrate of potassa, and how is it detected?
29. What is the percentage of H Cy. in diluted hydrocyanic acid?
30. What is the best test of strength for ether fortior?
31. What is chloroformum purificatum?
32. What is the official name for chloroform for external uses?
33. What are the official "Aqua?"
34. What is the difference between a decoction and infusion?
35. What is the difference between a cerate and an ointment?
36. What is the difference between a spirit and a tincture?
37. What is a fluid extract?
38. How is Extractum Belladonnae prepared?
39. What is the menstruum for Extractum Ergotae Fluidum?
40. What is the official name for Monsel's Solution?
41. What is the official name for Donovan's Solution?
42. What is the best antidote to arsenical poisoning?
43. What is the official name of Vallet's Pill?
44. How does morphia exist in opium?
45. Of what does the official Pilula Opii consist?
46. What is the official name for Dover's Powder, and of what does it consist?
47. What is the morphia strength of official tincture of opium?
48. What is the proportion of aconite root to the pint of the official tincture?
49. What is the proportion of veratrum viride in the official tincture?
50. Spell the official name for troches.
51. Write a model of a prescription.

QUESTIONS ON BOTANY AND MATERIA MEDICA.

1. What do the terms "Phanogamous" and "Cryptogamous" imply?
2. Explain the terms "Monocotyledonous" and "Dicotyledonous."
3. Explain the terms "Endogenous" and "Exogenous"; the elements in the exogen, and their arrangement, and the relations of endogenous and exogenous stems to cotyledon and leaf.
4. What are the parts of a leaf, and of what are they composed?
5. What are the two chief forms of venation?
6. Name the parts of a flower, and state under what circumstances the terms monœcious and diœcious are applied.
7. What is the difference between a raceme, a corymb, and an umbel?
8. What is the office of pollen, and how does it accomplish it?
9. What are the offices of the vegetable kingdom, and how does that kingdom stand related to the inorganic and animal kingdom?
10. What are the different members of classification, and what is the difference between the natural system or order and the artificial system of Linnaeus?
11. Belladonna. Definition; nat. order; habitat. Describe plant, Alkaloid, Dose. Strength of official collyrium; effects; treatment of poisoning by; off. preparations and doses.
12. Calumba. Definition; habitat; important principle; how found in market; medical properties; off. preparations and doses.
13. Cinchona. What three principal varieties; how do they compare in alkaloid value? Nat. order; habitat;

what alkaloids; incompatibles; medicinal uses; off. preparations and doses.

14. Conium. Definition; Nat. order; habitat; alkaloid; treatment of poisoning; effects; off. preparations and doses.
15. Galla. Definition; nat. order; habitat; sorts; important constituents; incompatibles; uses; off. preparations and doses.
16. Opium. Definition; morphia value necessary; nat. order; habitat; commercial salts; alkaloids and important constituents; incompatibles; tests; symptoms of poisoning; treatment and antidotes; medical properties; off. preparations and doses.
17. Podophyllum. Definition; nat. order; habitat; important constituent; medical properties; off. preparations and doses.
18. Rheum. Definition; nat. order; habitat; commercial sorts; constituents; medical properties; off. preps. and doses.
19. Squill. Definition; nat. order; habitat; commercial varieties; active principle; medical properties; off. preps. and doses.
20. Inula. Definition; nat. order; habitat; medical properties.
21. Arsenious Acid. Dose; poisonons effects; treatment and antidotes; preparations and doses.
22. Constituents of pill Cath. Comp.?

SIR WILLIAM GULL ON MEDICINE.

WE reprint from the *British Medical Journal* an abstract of an address delivered at the annual meeting of the Clinical Society of London by Sir William W. Gull, M.D., D.C.L., F.R.S., President of the Society:—

"In addressing you this evening, gentlemen, I have in some sort to throw myself on the forbearance of the Society, for, though I have been able to bring certain ideas together on the subject on which I desire to speak, I have not, for want of time, been able to adopt a form of words such as I would have liked. In some sense I am the spokesman of the Society as its President, in especial when laying before the public the objects of the Society as I would now do.

"We, in our calling, differ from some theologians in one important respect: they look on this world as a decaying world, as much worse than it once was; we, as students of nature, are opposed to this view, for, if we look to the history of nature, we see we are ever advancing towards perfection, even if we are not likely to reach it. This is an improving world, and we are met to advance that idea. We believe that this world has something better in store for all than anything which has yet been seen, and are like to the convalescent, whose last day should always be the very best he has ever spent. Some men are apt to think that science has certain limits set to it, beyond which no man may go; but we believe that knowledge extends far beyond the strictly scientific limit. Doubtless, were the early lower animals assembled together in conclave, they would conceive it quite impossible to transcend their status; that when the world came to megatheriums, let us say, then it must stop. They could not conceive the possibility of such a being as man. But at this point we join the theologians again in accepting a metaphysical clement, in forming conceptions of things of which we can have no positive knowledge. In this way we may be said to worship nature, but only in a very limited sense. We look upon our being, not as perfect, but as becoming perfect, and we are here to night—and at all times have it as our object—to improve these defects of nature, and in endeavouring to perfect the human frame.

Respecting the object we work for—this living organism of ours—one great advance has of late been made. We are acquiring a physiological notion of disease. Disease is no entity; it is but a modification of health—a perverted physiological process; and this must at all times be insisted upon. Were it not that we fear death, and dislike pain, we should not look upon disease as anything abnormal in the life-process, but to be as part and parcel of it. Few would now venture on a definition of disease; for in reality it is but the course of nature in a living thing which is not health. In health the balance of function is even; incline it to either

side, and there is disease. That being so, just as the life-process constitutes an individual and puts him apart from his fellows, so must any alteration in it be individual, and not general. But to the ignorant, disease is an entity—an evil spirit which attacks us and seizes us. Hence arises the word "seizure," which, though in a somewhat different way, we still use, but with a protest. To the charlatan, disease is a set of symptoms to be attacked by a variety of drugs—a drug for each symptom. To us, disease is a life-process of a perverted kind.

"Many states are not now called diseases which used to be, and there are still some to be expunged. Some people are always ailing. Some have feeble stability, and to them it is as natural to be ill as it is to others to be well; but this is not disease. So, too, aged persons get ill; but this is not disease—in reality it is natural change simulating disease, and when we try to cure such we use all the farrago of the chemist's shop to prevent the sun setting. So syphilis at last ceases in the system to be syphilis, and becomes an early decay.

"It is curious to consider the various morbid agents at work within our bodies, the lines in which they work, and their seats of action. These as yet have been but little studied, and deserve attention. Thus, it is very doubtful if scarlatina begins in the blood, as we should all be apt to say, rather than in any other tissue or fluid. Let it be our object to find out where all these begin within the body, and how they enter the body. In future, I hope, comparative pathology, which is just beginning to be studied, will teach us much; for in our bodies we men have many organs which are of little or no use to us, and are only relics of a former state of being. What, for instance, is the comparative anatomy of the tonsils? Were I to make a man, I do not think I would put tonsils in him. Yet these, and such like organs, in accordance with the general law, are more prone to disease than are the others which are of real use in the system. I remember the case of a man who had a permanent vitelline duet. He had been out on a cold day, and the motion of the intestines twisted them in a mass round this persistent duet, and he died. I made a preparation of the duet, and wrote under it, 'Cui vitam atque mortem dedit diverticulum.' Every part of the body is alive, and has its own individual life and pathology, whether it be immediately required or not; only, if not required, it is more prone to disease than if it were. I could, for instance, suppose a fetus of four months going to the doctor and saying, 'I am going all wrong; my Wolffian bodies are disappearing, and kidneys are coming in their stead.' Yet that is as much a condition of disease as some of those conditions of which I speak.

"It is of the utmost possible importance, then, to be able to tell what we have and what we have not to cure. How often do we find people trying to do what is impossible. Some women have no more vital capacity than a canary bird; they are constantly ill, and it is useless to attempt to make them well. A man came to me and said: 'I don't know what to do with So-and-so. I have given her everything I could think of, and she will not get strong.' 'Why,' I said, 'you have been trying to put a quart into a pint pot. You cannot make her strong, and never will.'

"So, when a new instrument or mechanical means of diagnosis is introduced, we must try to make ourselves masters of it, so as to be able to use it aright, even though this is troublesome to ourselves; only we must beware of applying the knowledge thus acquired too early to practice. Thus, as regards the thermometer, doubtless it yields us most valuable information, but we must beware of using it as a guide to our treatment until we have a more complete knowledge of the condition of bodily temperature.

"But after the physical comes the vital diagnosis. It is well to know exactly what is the condition of each part of the system; but to what is the wrong due? That no weighing or measuring can give you—only experience. A man has pneumonia—that is a too vague fact; what are the dynamics of the disease? One man with pneumonia will get rapidly well and be right again in a few days, whereas another man will not get well at all. So, in different individuals, a form of disease apparently the same may be different from the beginning, and this we cannot always make out in our diagnosis, especially in internal disease. In skin diseases we can do better.

"During the last week I have been called on, as most of you know, to form a diagnosis of the workings of the mind

Here the break-down may be the first sign of the diseased condition, just as it may be in heart-disease, peritonitis, and a score of other diseases. A man, after racing up a hill, finds himself breathless and spitting blood. He comes to you, and you find heart-disease. It does not mean that the heart-disease was produced by running up the hill; it only means that an organ, equal to its ordinary duties, failed when unusual stress came to be laid upon it. So is peritonitis often the result of disease previously latent, but brought on by exposure to cold, or some such agency. Some men say that such cases as those of doubtful sanity should not be taken up by us—that ordinary men are quite as well fitted for finding out the truth as we are, with all our training. If so, all I say is, that it is no honour to us that it is so.

"We are sometimes twitted with letting Nature alone to do her work. We do not. And here, again, we join issue with the theologians. They say, 'If it is God's will that a man die, so be it.' But say we, 'God's will is to be found out; it is not a mere fate.' We are not ignorant worshippers of nature, and whether a man is doomed to die or no, we know only by the result. We are connective agents. We have to adjust and correct. We know the tendency to recurrence to the equilibrium—that is, health—and we endeavour to assist in adjusting this balance in each individual.

"In fever, for instance, two things are promptly at work—destructive changes, and changes tending to recovery. In such diseases there are certain superficial accidents which we are apt to notice. In fever there are often complications; but these are really part of the fever-process, and are not to be interfered with by themselves. Our study must be, how best to bring the condition to a safe ending; for a patient in fever may get well of the fever, and yet die of a bed sore.

"In conclusion, if I have spoken more as regards medicine than as regards surgery, I think the surgeons ought to be indebted to me for hints towards the extirpation of superfluous organs—a grand prospect for the surgeons of the future."

Pharmacy.

BROMIDE OF CAMPHOR.

Professor Deneffe, of Ghent, has reported in the *Presse Med. Belg.* on a combination of bromine and camphor. The two bodies are first united and by heating in a closed vessel hydrobromic acid is produced, and a body differing from ordinary camphor by the substitution of an atom of bromine for one of hydrogen. The therapeutic value of this compound is that it acts as a sedative in cases of nervous excitement. It has been given in doses of two grains every hour for three or four hours together and is credited with excellent effects.

WEIGHTS AND MEASURES.

Mr. C. H. Wood read a paper at the April Pharmaceutical meeting, in which he advocated the employment of proportional numbers to indicate the quantities of ingredients of Pharmacopœial compounds, as recently proposed by Dr. Redwood. But in cases where fractional numbers would be necessary he proposes slightly to vary the composition of the preparation, and then present side by side the weights now in vogue and the proportional numbers. The avowed object of the change was to facilitate the introduction of the metrical system. In the discussion which followed an opinion was generally expressed that it was not desirable to introduce any intermediate system of weights and measures into pharmacy.

COPPER IN CAJUPUT OIL.

Mr. Edward Histed (Brighton) reported to the last meeting of the Pharmaceutical Society the result of some experiments with cajuput oil, which confirmed the observation of Guibourt that copper is frequently contained in that oil. It would seem that the green colour is not necessarily dependent on copper, but by re-distilling ordinary oil a perfectly colourless liquid is obtained, and this acts readily on metallic copper and in a few days re-acquires the green colour. Guibourt stated that in very green cajuput oil he had found 0.137 grammes of copper in each 500 grammes, but usually it is in much smaller proportions.

SYRUP OF TOLU.

The following process is given in the *Moniteur des Produits Chimiques* :—

Tincture of Tolu, 40 grammes.
Powdered Gum Arabic, 40 grammes.
Simple Syrup, 920 grammes.

Make a thick mucilage with the gum and a little of the syrup, and incorporate therewith the tincture; then add the rest of the syrup gradually. The gum serves both to suspend the resin in the form of an emulsion, and to prevent the syrup from being too thin.

LIME WATER.

In an elaborate paper read before the Royal Irish Academy by Mr. C. R. C. Tichborne, F.C.S., etc., on "Dissociation by Heat of Compounds," that chemist reports certain experiments with lime-water, which are interesting to pharmacists. He believes that the effect of heat is to decompose the hydrate of lime ($\text{Ca}''\text{O} \cdot \text{H}_2\text{O}$) and to produce $\text{Ca}''\text{O}$, and H_2O , $\text{Ca}''\text{O}$ being insoluble in water, or very much less soluble than its hydrate. This is probably what takes place. The insolubility is always concurrent with the rise in the temperature. The results of the experiments are tabulated as follows :—

One Part of Water at—	Takes up $\text{Ca}''\text{O}$ —
15.5° C.,	$\frac{1}{71}$
100°	$\frac{1}{1310}$
109°	$\frac{1}{1753}$

and so on, until a point would be reached at which lime would practically be insoluble.

ARTIFICIAL MILK.

The *Boston Journal of Chemistry* states that during the siege of Paris M. Dubrunfaut devised an artificial milk, made by dissolving one and a half ounces of sugar in a quart of water, adding an ounce of dry albumen (from white of eggs) and fifteen to thirty grains of soda crystals, and then making an emulsion of it with from one and a half to two ounces of olive oil. As the war progressed, gelatine was substituted for the albumen, and then slaughter-house fats—purified by melting at 150° and then projecting into them small quantities of water—for the olive oil. One firm made in this latter way, 132,000 gallons of milk daily for Paris consumption.

THE ESTIMATION OF EMETIN IN IPECACUANHA.

By OSCAR ZENOFFSKY, OF DORPAT.*

Translated and Communicated by F. Froedman.

IPECACUANHA has been known in Europe for 223 years, and 171 years since, Boulduc made the first analysis of its composition. The consumption of this justly valuable medicine increases, but continually the danger of procuring a root of an inferior quality is also increasing.

It is true that, to a practical pharmacist, some outward marks exist, by which its quality can be judged, but still it may happen that a given specimen possessing all external good appearances, fails to produce the desired effect; therefore chemistry has been applied to in estimating the active principle—the emetin. But what, up to the present time, has been done in this direction? We know the details of but two quantitative analyses made by Lefort,† who compared the roots imported for the first time from New Granada in 1869 with the Brazilian roots.

Firstly, 10 grm. of the dried root were exhausted with alcohol, and afterwards with diluted alcohol (1:1), both liquids evaporated to a syrupy consistence; then diluted with fifteen to twenty parts of distilled water, filtered and decomposed by a slight excess of tannin. The precipitate dried, weighed, and the emetin calculated gave—

Brazilian root.	New Granada root.
1.441 per cent.	1.880 per cent.
1.458 per cent.	1.802 per cent.

I do not think it necessary to go into a minute description of this analysis; chemists of the present time do not believe in the estimation of alkaloids by tannin, because it has been proved that the alkaloid precipitates by tannin are

* This essay was rewarded with the silver Suwerow medal by the Medical Faculty of Dorpat.

† *Journ. de Chimie et Pharm.* Vigla et Nikle. 55 année. 4 série. 1869 mart.

very variable,* and the tannates not so very insoluble as to be useful for quantitative analysis.

Secondly, 10 grm. of the powdered root were extracted with alcohol, evaporated in a waterbath, the remainder dissolved in water, concentrated, and decomposed with nitrate of potash, the so produced difficultly soluble nitrate of emetin filtered off, dissolved in alcohol, evaporated to dryness, and the pure emetin estimated. This method gave for the Brazilian root 1.350 per cent., for the New Granada root 1.082 per cent. of emetin.

But in the April of the same year, Lefort says that the at first difficultly soluble nitrate of emetin is transformed into a soluble modification (1:100), therefore the estimation by this method is worthless.

It was necessary for me to find a reagent for the estimation of emetin, by which I could accurately (and as this work is chiefly written for the practitioner) most quickly and simply determine it.

Proceeding from this point, I thought of the proposition made by Mayer,‡ to determine alkaloids volumetrically by the double iodide of mercury and potassium.

The method recommended, especially valuable to pharmacists for the estimation of preparations whose action is conditional upon the presence of one or two closely related alkaloids, is *in extenso* :—

Take 13.546 grms. mercuric chloride, and 49.8 grms. potassic iodide, dissolve both in water and make up the volume to one litre; one cc. of this $\frac{1}{10}$ normal volumetric solution precipitates $\frac{1}{10000}$ and $\frac{1}{20000}$ equivalent of the above-mentioned alkaloid.

The precipitates are produced in acid,—neutral and slightly alkaline solutions and a possibility of separating ammonia as has been proved by Nessler,§ alcohol and acetic acid dissolve the precipitates; gum, mucus and albumen do not interfere with the reaction. As regards the delicacy of the reagent, Mayer has found reactions of some alkaloids in $\frac{1}{10000}$ th part. In colourless liquids the volumetric solution is added in slight excess, a little chromate of potash then added, and afterwards a silver solution. Four cc. of the normal $\frac{1}{10}$ silver solution correspond one cc. of the excess solution of double iodide of mercury and potassium. The proposed reaction is certainly the weakest point of the whole process.¶ I had to ascertain if the emetin could be estimated by the double iodide of mercury and potassium alone, without the reaction. The end of the reaction I thought to be able to ascertain by the drop-method accurately enough, as I shall hereafter explain, and therefore I divided the whole work into answering the following questions :—

- I. Is the reagent delicate enough to determine volumetrically the estimation of emetin?
- II. What is the composition of the precipitate?
- III. Do the drugs containing the alkaloids, contain also matters which could injure the reaction?

Before I could start my experiments I had to obtain the alkaloid in an absolutely pure state; I preferred to prepare it myself.

The treatment I adopted, resembled that adopted by Pelletier, Magendie, Calloud, Liebig, Merk, Reich, and Lefort, but mostly that of Lefort with some slight alteration. Lefort directs to extract the emetin and ipecacuanhic acid from the root by alcohol; I preferred to use alcohol made acid with sulphuric acid, expecting to gain a larger amount of emetin.

Half a pound of powdered ipecacuanha root was extracted three times with 500 cc. alcohol, and 2 cc. diluted sulphuric acid (1:5) in twenty-four hours, the obtained brown tincture evaporated *in vacuo* to a syrupy consistence, diluted with water, and filtered to remove the separated resinous matter. The resulting filtrate evaporated *in vacuo* to the volume of 500 cc., after being separated from fat by shaking with petroleum ether, gave, when treated with ammonia and chloroform to the last-named about 3 grm. of

* Herm. Hoffmann "Dissertation." Rostock. 1865.

† From the *American Journal of Pharmacy*. xxxv., p. 20; *Chemical News*, 1863, vii., p. 159, and viii., p. 171 and 189; *Pharmaceutical Journal for Russia*, 1864, p. 502; *Journal de Pharmacie*, xlv., p. 124; *Vierteljahrsschrift für prakt. Pharm.* xiii., p. 43.

‡ Nessler's "Dissertation," Freiburg, 1856; *Chem. Centralblatt*, 1856, p. 529.

§ The proof of this has been furnished by Professor Dragendorff, *Pharmaceutical Journal of Russia*, iv. p. 239.

brown emetin, which was purified by several times dissolving in diluted acid and precipitating with ammonia. The resulting emetin of a dirty-yellow colour was washed on a filter with water and dried at 30° C. By this purifying method a considerable quantity of emetin was left behind (1 grm.), but as regards quality it answered my purpose thoroughly, i.e., the alkaloid was easily and perfectly soluble in diluted sulphuric acid and chloroform, and could be accurately estimated, as will be shown hereafter.

I could now begin my experiments; the first thing I wanted to ascertain was how could the emetin be accurately tested by the double iodide of mercury and potassium test. For that purpose a solution containing 0.000,005 grm. emetin in the cc. was poured on a watch-glass (placed on black glazed paper). Dipping now into it a glass rod previously wetted with the volumetric solution a distinct turbidity could be perceived. Under these circumstances I could promise myself tolerably good results, but had to make myself acquainted with the precipitate produced. I decomposed 1.3979 grms. emetin mercuric iodide with nitric acid and chlorate of potash, got rid of the superfluous acid by evaporation to dryness, dissolved the salts in water and precipitated the Hg by sulphureted hydrogen; the sulphide of mercury produced was washed with alcohol ether (because a fatty substance was also produced), sulphide of ammonium and water, and dried at 100° C.; it weighed 0.3024 grm. Calculating from this datum by the formula

$$\frac{116.13979}{0.3024}$$

the equivalent weight of the emetin mercuric iodide we get the number 536.2. Taking now by the analogy with double iodide of mercury and potassium the formula of the alkaloid to be $(C_{20}H_{15}NO_5HgI_2)^*$ the equivalent of the emetin = $536.2 - (100 + 254) = 182.2$. The fixed formula by Reich† $C_{20}H_{15}NO_5$ has the equivalent = 189, and therefore I could accept Reich's formula, consequently 1 cc. of the $\frac{1}{10}$ th normal volumetric solution = 0.0189 grm. emetin.

Everything heing in this way prepared, it was necessary to ascertain how much of a weighed quantity of emetin could be volumetrically estimated by the reagent. To do that, a weighed quantity, of emetin was dissolved in diluted sulphuric acid, and the volumetric solution added, until no more turbidity was produced. The end of the reaction I ascertained by the drop method. I filtered a few drops of the liquid through a filter of about 3 cm. diameter, on a watch-glass (placed on black glazed paper), and dipped a glass rod, previously wetted with the volumetric solution, into the liquid. The reaction (a local turbidity) could be seen even in coloured liquids; if the operation be close to its end it is necessary to wait twenty to thirty seconds for the reaction; lastly, bring both filter and filtrate into the liquid so that there is no fear of any loss. How closely by this method the emetin can be ascertained, the following results will show:—

A weighed quantity emetin volumetrically gives—

- I. 0.0283 grm. with 5.6 per cent. of water = 0.0263 free from water takes 1.4 cc. = 0.0264 grm.
- II. 0.034 grm., with 5.6 per cent. of water = 0.0322 free from water takes 1.7 cc. = 0.0320 grm.
- III. 0.039 grm., with 5.6 per cent. of water = 0.0379 free from water takes 2.0 cc. = 0.0378 grm.
- IV. 0.0283 grm., with 2 per cent. of water = 0.0278 free from water takes 1.5 cc. = 0.02835 grm.
- V. 0.034 grm., with 2 per cent. of water = 0.0334 free from water takes 1.7 cc. = 0.03203 grm.
- VI. 0.039 grm., with 2 per cent. of water = 0.0383 free from water takes 2.0 cc. = 0.0378 grm.
- VII. 0.1144 grm., with 2 per cent. of water = 0.1122 free from water takes 5.3 cc. = 0.10017 grm.
- VIII. 0.0632 grm., with 7.2 per cent. of water = 0.0587 free from water takes 3.5 cc. = 0.0561 grm.

After these trials the estimation of the emetin in the root could be commenced. Although Mayer mentioned that gum, mucus, albumen, etc., did not interfere with the reaction, I thought it advisable to estimate (1) a watery extract, (2) an alcoholic extract from which the alcohol had been evaporated, and (3) one with chloroform-isolated emetin.

I. I prepared a watery extract, of which 10 cc. = 1 grm. of the root, in this way—15 grms. were digested with water, and a few drops of diluted sulphuric acid to the volume of 150 cc. After twenty-four hours' digestion at 30° C., filtered,

and a measured volume of the filtrate estimated by the reagent it required—

- a. 40 cc. = 4 grm. of the 12.07 watery root 8.0 cc. of the reagent = 0.1512 grm.
- b. 20 cc. = 2 grm. of the 12.07 per cent. watery root 3.9 cc. of the reagent = 0.07371 grm.
- c. 40 cc. = 4 grm. of the 12.07 per cent. watery root 7.9 cc. of the reagent = 0.14931 grm.
- d. 40 cc. = 4 grm. of the 12.07 per cent. watery root 8.1 cc. of the reagent = 0.15309 grm.

Calculating the emetin in percentage, it is— $a = 3.78$ per cent.; $b = 3.685$ per cent.; $c = 3.732$ per cent.; $d = 3.8$ per cent.

II. An extract as above, but with an alcohol of 85 per cent., I prepared by evaporating from a measured volume the alcohol, adding a little water, and decomposing the turbid liquid with the reagent. It required—

- a. 50 cc. = 5 grm. of the root 9.9 cc., from which the emetin calculated = 0.1871 grm.
- b. 50 cc. = 5 grm. of the root 10.3 cc., from which the emetin calculated = 0.194 grm.

In percentage it is— $a = 3.74$ per cent.; $b = 3.89$ per cent.

III. Lastly, I was desirous to estimate a given quantity of the emetin isolated by chloroform. For that purpose 100 cc. of an alcoholic extract prepared as above was freed from alcohol by evaporation, the separated resinous matter removed by filtration, fat and wax removed by shaking with petroleum-ether. The liquid, made alkaline by ammonia, was shaken with chloroform to dissolve the emetin, evaporated, dissolved in dilute sulphuric acid, and estimated, 10 grms. of the extracted root required:

- a. 15.7 cc. = 0.296 grm.
- b. 14.0 cc. = 0.2646 grm.
- c. 15.2 cc. = 0.292 grm.
- d. 15.7 cc. = 0.296 grm.

The percentage of emetin in the root is for $a = 2.96$ per cent.; $b = 2.646$ per cent.; $c = 2.92$ per cent.; $d = 2.96$ per cent.

Besides, I tried to estimate the emetin in the root by evaporating an extract, freed from mucus and resinous matter, with carbonate of baryta, the powdered mass washed out with chloroform evaporated, and the so produced emetin dried at 100° C. and weighed. Volumetrically, it could not be estimated on account of being decomposed at that temperature. The result gave:—

- a. 10 grm. of root 0.261 grm. emetin = 2.619 per cent.
- b. 10 " " 0.263 " " = 2.63 "
- c. 10 " " 0.226 " " = 2.26 "
- d. 10 " " 0.2425 " " = 2.425 "

Based upon the above results I can affirm that emetin, pure as well as in its preparations, can be accurately estimated volumetrically by the double iodide of mercury and potassium, although the results obtained by shaking, compared with those obtained direct by digestion do not quite agree. But anyone who has once made a quantitative analysis by shaking will agree with me, that a difference of 0.9 per cent. is but a trifling one, as even Lefort says that part of the alkaloid is decomposed.

Lastly I beg to summarize the results of my experiments in the following process. Take 15 grm. of the root, mix with 15 drops of dilute sulphuric acid and so much of 85 per cent. alcohol that the volume should be 150 cc. digest 24 hours, filter, measure 100 cc. of the filtrate, evaporate the alcohol, and add the volumetric solution until no more reaction takes place. The number of the used cc. of the reagent multiplied by 0.0189 ($\frac{1}{10000}$ th of an equivalent of emetin) gives the amount of emetin in the root and in the liquid, that is 10 grms.

Ipecacuanha wines can be estimated just as accurately, if from a given volume the alcohol has been removed; the vehicle (sherry wine) does not give a precipitate.

Ipecacuanha wine prepared by the Russian Pharmacopeia* requires by this method for:—

- a. 10 cc. = 1.3. cc.
- b. 10 cc. = 1.4. cc.

which would be for

- a. 0.0245 grms. = 0.245 per cent.
- b. 0.0263 grms. = 0.263 per cent.

* Vinum Ipecacuanhæ Pharm. Rossic.

‡ Rad. Ipecac. contusæ partem unam,

Vini Xerensis partes duodecim.

Digest for eight days, then strain, press, and filter.

* O = 6.

† Archiv. f. Pharm. Jahrgang 13, p. 192.

OUTWITTED BY A QUACK.
(COMMUNICATED BY THE SUFFERER.)

ALL quacks should be classed with the Red Indians, whom Artomus Ward distinctly labelled "Pison." They should be shunned and shunted. You and I, most worthy reader, would probably remain the exclusive proprietors of Europe and America, if we could carry out that policy, and most disagreeable companions we should probably find each other to be. Two heroes all alone in the world! No quacks to legislate for us, no quacks to write leading articles for us, none to supply us with all the varied luxuries which their quackery has made necessities for our existence, and none to discover, describe, and prescribe for, old or new diseases lurking in our long-suffering frames. It would be a dismal world indeed. One shudders to conceive the collapse of such a city as London, for instance, if all quackery were doomed to sudden annihilation. Horse, rider, friend and foe, *Times*, *Telegraph*, and *Standard*, in one red burial blent.

Oh no! quacks do not all deal in medicine. But most assuredly some of them do, and it is a melancholy reflection, and a suggestive fact, that the mention of the title does immediately direct the thoughts of the listener to that most noble profession. Perhaps quackery is latent in the souls of all created animals, whether clothed in feathers, black or white cravats, or high-heeled boots. But the verdict of the world seems to be that in the practice of physic the talent has been most extensively developed, and I am afraid the verdict of the world is correct. Perhaps that is the reason why Mr. Gladstone will never give a peerage to a medical man. Very likely. It would be a sad pity to introduce the taint into the House of Lords.

My quack, at any rate, was in the medical line. He was a wonderful man. Universities in Germany and America, if I remember rightly, had vied with each other to do him honour, though probably he was personally unknown in either of those lands. I can never remember how many of the nobility and clergy owed their lives to his skill and his Regenerative Balsam (under Providence. His Modesty generally suggested that addition in the testimonials). With these flattering tokens of consideration he could afford to despise the cold neglect of English universities which had never recognised his merits, and the colder attention of the police-court which I believe once provided him with board, lodging, and attendance, for a space of two years.

I entertain no animosity against the gentleman. In fact, I am rather proud of the fight in which at last he defeated me. Duller men than he have outwitted me before and since, but I came very near to winning this time. We had both scored nine, and he made the odd trick. Not exactly that either. My case was like that of Napoleon at Waterloo, who despatched a messenger to Paris with the announcement that he had beaten the English, but they wouldn't go. If I ever did suffer from wounded vanity, it has passed away now. Time, in Byron's words, has adorned the ruin, comforted and healed the heart which bled; but it has not squared the account. R. I. P., however; he is still carrying on his quackery in a small way, I believe; but I have the satisfaction of hoping that I had some share in upsetting the big coach which he once drove. Let me call him Doctor Quack, therefore; then if I damage anybody I shall damage the fraternity all round; and my sentiments are very catholic in that direction.

He must have been fresh from prison when he first communicated with me, and I might have been fresh from Hanwell. He wanted some service in my line; I wanted business; and he agreed to my price. He would not have complained if I had asked him double. Kind friends soon warned me of my customer, but I was also informed that the Doctor by no means lacked cash; and I had vanity enough, and simple confidence enough in my country's laws, to believe that I could squeeze my rightful demand out of him. Therefore I resolved to fulfil my part of the contract. My claim was twenty-four pounds, and when it was due I asked him for it. A cheque by return of post would certainly have surprised me, and I was not destined to be startled in that manner. I commenced a correspondence which I had pretty much to myself, and which rapidly advanced in tone from *pianissimo* to *fortissimo*, indulging in

the *staccato* movement on the journey. Once the Doctor wrote languidly, asking for a statement of my account as if he had not had a dozen, and at last I referred to "my solicitors." Alas, he did not fear them any more than if they had been rabbits. I instructed "my solicitors" to show their teeth, which might have been constructed of cotton wool for any biting powers they possessed. Then I told them to bring out the engine of the law, drive it up to Madagascar-square, where Quack lived, seize their prey, and incarcerate him in the lowest cell of Newgate. They restrained my impetuosity and took out a summons against him, which of course I had to pay for. Now if they had summoned the Tai-Koon of Japan, and given him time, he might probably have come; but I never expected to see John Quack, M.D.; he had other engagements. Of course, I got judgment, and the lawyers seemed to think I ought to be satisfied. We ascertained that our friend the enemy was living in a furnished house, nothing about him as far as we could tell being his own, and therefore it did not seem desirable to issue an execution. My legal advisers thought I had better drop the unremunerative chase, and try to forget it. Now if there is any one obstruction in creation more intolerably tantalizing than another it is a lawyer who advises peace. When you go to law you go with the intention of fighting. You smell the battle afar off, and you naturally hunger for carrion; you want to conquer if you can, but you are desperately determined on bloodshed at any rate; and the candid lawyer who points out your weakness is a nuisance and a traitor. He is like the candid physician who tells a patient that there is nothing the matter with him but fancy. Said patient never goes to that physician again. (Moral: Lawyers and physicians had better curb their candour.)

At this juncture a chance turned up. The new Bankruptcy Act had just passed, and vague terror seemed to seize all unjust debtors. Readers will remember the debtors' panic of 1869, and how, up to the very last hour, they rushed to Basinghall-street and pleaded for the privilege of becoming bankrupts. I read the Act through and survived. What there was in it so terrible, I was then, and still am, unable to comprehend. But the panic was unmistakable, and I decided to back my enemy into it. I coupled myself with another creditor, and together we made up the requisite £50. Then I threatened him again, and this time I "struck ile" and elicited an answer. Quack shared the panic, evidently, but he now began to plead want and poverty. As a man and a brother he implored me to have mercy and wait; but I steeled my bowels of compassion against him and pressed on. The clerks in the Bankruptcy Court smiled when I asked them for a writ against John Quack, for he was an old acquaintance, and had indirectly helped along the stamp duties considerably. Now came the tug of war. This writ had to be served personally, and neither I nor any acquaintance had ever seen the man to our knowledge. I gave the writ to the lawyers in the anticipation that they had some patent process of serving it. They reckoned that it would be a difficult matter, and, therefore I suppose, they selected their dullest clerk for the expedition. That young gentleman promptly decided that the game was an impracticable one, and when he reached Madagascar-square he estimated that it was an impossible one. Coming home he considered it hopeless, and finally he came to the conclusion that the chase was simply absurd. So it was to him. He might as well have tried to straighten out the equator. So the writ came into my hands again. I went for Dr. John Quack *con amore*. I went several times; I went a great many times. I invited him to call on me, but John did not care for the honour of my acquaintance. Then I had a letter written to him, of which I give a copy:—"sir mister quack as i ham not quiet well i shoold like too se you. a frend off min ses you wood do me good if i was to se you so i hop you wil say when i shal com. pleas rite to the poste ofiss hackney as i dont wont eny off my frends too no. james jenkins." Considering that that was written before the letters of the "affectnate" baronet had appeared to serve as a model, I flatter myself it was pretty creditable. Duly came the answer. Dr. Quack could prescribe for me quite as well without an interview; I was to detail my symptoms and send with them a post-office order for two guineas, and he would send a case of medicine in return. I replied that my friend had recommended me to see him personally,

and he replied appointing an interview. I dressed in appropriate costume, and once more visited Madagascar-square. I was shown into the consulting-room, which was as good as any of the regular West-end prescription mills, and in a few minutes a gentleman appeared whom you would recognise as a quack doctor if you met him in the desert of Sahara. He was stout and well-fed, and might have been a wholesale jeweller carrying his stock about with him, which was oozing out at various parts of his body. It was hard to maintain my simplicity as I asked him if he were Dr. Quack. But it was harder still to bear the disappointment of the reply that he was merely Dr. Quack's assistant. He talked to me very volubly, and tried hard to induce me to take some of the Regenerative Balsam. He was sublimely indifferent as to what might ail me, at least he never inquired, but he offered to cure me (whatever the disease might be, I suppose) for one guinea, in consideration of my circumstances, though he said the two guineas was a mere nothing to what Dr. Quack got sometimes. I was loyal to "my friend's" advice, however, and resisted all this swell's seductions. He made another appointment with me to see Dr. Quack himself, which again was not kept. Then I went and detailed my grievances at the Bankruptcy Court by affidavit, and was permitted to serve the writ on somebody whom I could get at, instead of on Quack himself, whom I could not get at. Now came the final contest. Quack could not afford to be made a bankrupt just then, I suppose, and he writhed and wriggled in a more ingenious manner than ever. But we held him tight, and at last agreed to accept in payment of our accounts (£50 and costs) a £10 note, and £75 in Regenerative, at wholesale price. We expected to make something of the bottles and stamps, even if we had to throw away the medicine, and we were nearly tired of the contest, so we were satisfied with the bargain. But we were destined to be wrecked in sight of land, for we foolishly received the rubbish without examining it, and afterwards found that not a single bottle had a stamp on it. There were more than 300 bottles in all, at prices ranging from 4s. 6d. to 22s., and we were much disappointed at the failure of that stamp harvest. So we turned then to the Board of Inland Revenue, and they took the matter up warmly. Quack was liable to £10 penalty for every bottle he had sent out unstamped, and we went for him again. A penalty of more than £3,000 was demanded, and after about three months' hunting, the fox was caught again, that is to say, the summons was served. Her Majesty's lawyer and I went to the magistrate's court full of indignant virtue and public spirit. The doctor was not there, but he was represented by an eminent gentleman, whom I may call Mr. Whisker. When the case was called Mr. Whisker requested permission to ask Her Majesty's solicitor whether he intended to press for the full amount of penalty, or whether he was open to make a compromise. We saw no sarcasm in Mr. Whisker's eye as he put this question, and Her Majesty's lawyer replied, as a representative of a great government should, that the Board of Inland Revenue might possibly listen to representations which might be made after the penalty had been awarded, but that they could listen to no overtures until then. In that case, Mr. Whisker remarked, it was his duty to submit to the worthy magistrate some technical objection which I have never understood, but which seemed of some importance in the view of the said magistrate, for he adjourned the case for a week, and then announced that his decision was in Mr. Whisker's favour. Soon after that I had a sarcastic note from Dr. Quack, saying that he should not be able to execute any further orders for me, as the great development of his business in the United States necessitated his removal to America. The Regenerative Balsam is still on hand, and I am open to make a contract with the War Office to regenerate a few regiments.

A JOKING Harvard student recently called for a doctor in great haste, directing the servant where he should go. The doctor came, but found his services unnecessary and his call a hoax. So far it was all very well, but the servant recognised the caller, and the next day the doctor called on him and asked him whether he would rather pay twenty dollars or be arrested. He said he thought so, too, and paid the twenty dollars.

THE PHARMACY OF THE BIBLE.*

BY J. T. SLUGG, F.R.A.S.

I USE the word pharmacy in its literal and broadest, not in its conventional and narrow sense. It cannot be otherwise than interesting to gather together and pass in review the teachings of the Bible, whose history goes back four thousand years into the past ages, as to matters connected with our own daily calling. After a careful investigation of the subject, I am bound to acknowledge at the outset, that whilst on the one hand there are references to many of the diseases which have afflicted mankind in ancient times, there is very little to be learnt in the Bible as to the nature of the remedies employed, or the healing art in general. We read of physicians and of apothecaries, and of the "many medicines of the Egyptians;" and Solomon, who wrote, we are told, on natural history, seems to have included in his favourite study some knowledge of the medicinal use of various plants, etc., but the results of his study are lost to the world. The drug known as "balm of Gilead" was supposed to have a medicinal virtue. We meet with what is a very popular remedy in the present day, prescribed by the prophet for a boil of a very serious nature, from which King Hezekiah was suffering, viz., a plaster of figs, which was successful in its results. We learn something of what we may call a domestic remedy for a wound, in the time of the Saviour, in the parable of the good Samaritan, who, finding the wounded man, bound up his wound, pouring in oil and wine. Though poisons are frequently mentioned in the Bible, there is no direct reference to vegetable or mineral poisons as a means of destroying life; those mentioned being the poisons of animals, as of serpents, asps, and dragons. In the list of the evil practices of the day given by St. Paul in his Epistle to the Galatians, occurs the word "witchcraft." The Greek word for this is "*pharmakeia*," from which our word pharmacy is derived. It has been suggested that *poisoning* is meant. No doubt it does either mean that, or what is more probable, the preparation of magical poisons, and what were then believed in, and greatly used, *philtres*. We read of *eye-salve* in Revelation, but have no means of ascertaining of what the eye-salve then in use was composed. It is worthy of note, that there is an occasional trace of chemical knowledge in the earliest times; for instance, the calcination of gold by Moses; the action of vinegar on natron, and of the cleansing properties of soap. We find also a direct reference to the business of a druggist, though not by name, in the Song of Solomon, where, in connection with perfumes, we read of "the powders of the merchant." In Exodus (xxx. 23) we have a regular Hebrew prescription, commencing with the orthodox, "Take of so and so, so much."

In the Bible we have either direct or probable reference to forty-five drugs, viz. :—

Aloes.	Fig.	Natron.
Aniseed.	Garlick.	Olive oil.
Almonds.	Gall.	Onycha.
Antimon. sulph.	Galbanum.	Palm.
Balm of Gilead.	Honey.	Pomegranate.
Brimstone.	Hyssop.	Ricinus.
Bdellium.	Hemlock.	Saffron.
Calamus.	Lign Aloe.	Sponge.
Camphire.	Lime.	Stacte.
Cassia.	Mallows.	Spikenard.
Cummin.	Manna.	Soap.
Coriander.	Millet.	Vermilion.
Colocynth.	Mint.	Vinegar.
Cinnamon.	Mustard seed.	Wax.
Frankincense.	Myrrh.	Wormwood.

Besides these, we read of anointing oil, ointment, perfumery, plaster, mortars and pestles, scales and weights.

Mortars and pestles we meet with as early as the time of Moses, for we learn that the Israelites in the wilderness used them for the purpose of grinding or beating the manna which they gathered. In Proverbs we find it suggested, "Though thou bray the fool in the mortar with a pestle, yet will not his folly depart from him." Egyptian sculptures exist exhibiting the figures of men pounding in mortars with large pestles. On the wall is a sketch of one such Egyptian

* Read at a Meeting of the Manchester Chemists' and Druggists' Association, March 8, 1872.

piece of sculpture. On the left you see two men standing opposite each other at one mortar, each with a large pestle, pounding alternately, as we often see blacksmiths striking their iron. On the right of the sketch is represented one man sifting the contents of the mortar, whilst the other is bringing a fresh supply. Next to this sketch you see one of another piece of sculpture, exhibiting the ancient form of scales used by that people. As scales of this form appear in the paintings and sculptures of the Egyptians as ancient as the time of Moses, we may conclude that the scales used by the Jews were of similar construction, and it is interesting to notice that they so greatly resemble the hand-scales in use among ourselves.

Ointments are frequently mentioned in the Bible, showing their use in very early times. There is a reference in the Book of Job, which is perhaps the most ancient book in the world, to the process of making ointment; where we read, "He maketh the sea to boil like a pot; he maketh the sea like a pot of ointment." There is also a remarkable reference to ointment in Ecclesiastes, indicating that the apothecary of that day was as troubled with flies in his business as the druggist of to-day, for they got into his ointments and spoiled them. "Dead flies cause the ointment of the apothecary to send forth a stinking savour." The ointments in use amongst the Jews were to a great extent vehicles for perfume; hence the words in the Song of Solomon, "Because of the savour of thy good ointment, thy name is as good ointment poured forth." Amongst the Jews the use of ointments was four-fold, viz., for cosmetic, funereal, medicinal, and ritual or religious purposes. The practice of anointing the head and clothes on festive occasions prevailed among the Jews. There are several references to it in Scripture. Ointments were also used to anoint dead bodies, and the clothes in which they were wrapt. This explains our Saviour's saying, "Against the day of my burying hath she done this." In Exodus, Moses is commanded to make a holy ointment, to be used only for sacred purposes, compounded of myrrh, sweet cinnamon, sweet calamus, cassia and olive oil. Of the dry ingredients, 60 lb. were to be used to 12½ lb. of olive oil. It is difficult to understand how so little oil could form the other ingredients into an ointment. Maimonides says that the powdered ingredients were infused in water till all the virtue was extracted, and then the infusion poured into the oil and boiled till the water was evaporated. The ointment was to be "compounded after the art of the apothecary." In the margin we have the word "perfumer" for "apothecary," which is a better rendering of the word. The business of a perfumer was not distinguished from that of an apothecary in the time of the translators. Hence Shakespeare, who lived long before, says, "An ounce of civet, good apothecary, to sweeten my imagination." Whether the Jews in Bible times understood the nature and use of drugs as medicinal agents or not, they certainly understood the art of perfumery. We have ample evidence of their profuse employment of perfumes. They used them to their persons, their clothes, and their beds. Even as early as the time of the patriarch Isaac, before the Israelites went into Egypt, we have an instance of perfumery applied to the clothes. We are told that the old man said to Jacob, "Come near now and kiss me, my son;" and he smelled the smell of his raiment, and said, "See, the smell of my son is as the smell of a field which the Lord hath blessed." The principal fragrant substances employed in perfumery by the Jews were cassia, cinnamon, calamus, camphire, frankincense, lign aloe, myrrh, saffron, spikenard. These articles were used either dry, or their perfume extracted and embodied in the form of an ointment.

Cassia and *Cinnamon* are no doubt the barks of the trees known by those names at the present day. Cinnamon is mentioned, as we have seen, by Moses, which is of importance as throwing considerable light on the fact that even in the earliest times the products of one country found their way by means of foreign trade into distant lands. Cinnamon was not grown nearer to Egypt than India and Ceylon, and the question arises how this product of the far East found its way thus early into the neighbourhood of the Mediterranean? Dr. Kitto thought that this was effected by the Arabians.

Calamus is generally supposed to be the *Calamus aromaticus*, or sweet flag; but this is denied by some scholars, who refer it to the lemon-grass of India and Arabia.

Camphire is an incorrect rendering of the word *copher*. In both the places of its mention the marginal reading is

"cypress." The substance really denoted is the *henna* plant, or *Lawsonia alba*. It was used as a dye for the nails, giving them a deep yellow or orange tinge, which was greatly admired.

Frankincense.—The epithet frank or free was applied to incense because of the freeness with which it gives out its odours and burns. It is not the article known as gum *thus*, but that known as *olibanum*, a gum produced by a tree known as *Boswellia serrata*, or *B. thurifera*. It was imported, we learn from Jeremiah, from Arabia.

Lign Aloe is the eaglewood of India, and has no connection with the drug known as aloe, the name being a corruption of the Arabic *allowat*. Of all perfumes this was most highly prized by Eastern nations; the Jews believed it grew in the garden of Eden.

Myrrh is mentioned in our English Bibles as a part of the present sent by Jacob to Joseph, and also as one of the spices which the Ishmaelite merchants were carrying into Egypt. The original word here is *Lôt*; whereas the word which is rendered "myrrh" in every other part of Scripture is *môr*. The article called *lôt* was not myrrh, but most probably gum labdanum; inasmuch as myrrh was not produced in Palestine, as the passages in Genesis speak of it as being exported from Gilead into Egypt. It was among the gifts brought by the wise men to the infant Jesus, and was highly valued by the Jews and other ancient nations. We are told that before Esther was presented to the king, "she was purified six months with oil of myrrh, and six months with sweet odours."

According to St. Mark, just before our Saviour's crucifixion, the soldiers offered a draught of "wine mingled with myrrh." It is difficult to understand this passage. Commentators agree in assigning as a reason that it was intended as a "pain-killer, presented out of pity." But myrrh is not an anodyne. The other evangelists speak of the draught as "vinegar mixed with gall." As *gall* stands associated in other places with that which is poisonous, the probability is that the draught contained some bitter and anodyne herb; it may have been the poppy, intended to stupefy the sufferer.

Saffron, there is no doubt, is the correct rendering of the Hebrew word. From the earliest times it has been in high repute as a perfume. It was used, we are informed, for the same purpose as modern "pot pourri."

Spikenard.—We read that "Mary took a pound of ointment of spikenard, very costly, and anointed the feet of Jesus." One of the disciples was displeased with so lavish an expenditure, asking, "Why was not this ointment sold for 300 pence and given to the poor?" It appears from this that its value was £9 7s. 6d. There is much difference of opinion as to what really the plant was which is rendered "spikenard." Sir William Jones, one of the most learned Oriental scholars, said of this famous perfume, "I am not of opinion that the nardum of the Romans was merely the essential oil of the plant, but am strongly inclined to believe that it was a generic word, meaning what we now call attar or otto of some plant; or the mixed perfume called "abir," of which the principal ingredients were yellow sandal, violets, orange flowers, wood of aloe, rose, musk, and true spikenard." The true spikenard, the "nardus indica," was highly esteemed as a perfume and as a stimulant medicine.

By *Aloe* we are, of course, not to understand the medical drug of that name, but either the *Lign aloe* or, what is quite probable, some kind of odoriferous cedar.

Aniseed is mentioned in connection with *mint* and *cumin*, which are represented as three of the smallest and most insignificant plants. No doubt mint and cumin are rightly translated, but the word translated *anise* Dr. Royle thinks should be called *dill*, as the anethum is more especially a genus of Eastern cultivation than the other plant. There is also an allusion to cumin in Isaiah, where the mode of separating the seeds from the plant is mentioned as being accomplished, not with a cart wheel turned on them, but by being beaten with a rod. Which of the *mints* is referred to I am unable to say. The ancient Greeks employed a herb which they called *menthos*, also termed "eduosmon," or the sweet-smelling herb. This is thought to be the "pipertia."

The *Almond-tree*, being a native of Asia, was well known to the Jews. "*Lûz*," translated *hazel* in Genesis, was another word for almond, and should have been so rendered.

Sulphuret of Antimony was known in most ancient times as a black pigment, and was used by both Greek and Asiatic

ladies as a paint for their eyebrows. Mr. Rimmel, in his admirable "Book of Perfumes," says, "Jewish women were mostly adorned with great physical beauty. Not content, however, with their natural personal attractions, they tried to enhance them with various cosmetiques." They were addicted to the practice of "painting" quite as much as the ladies of our own day. We are told that when Jezebel expected Jehu "she painted her face." Mr. Rimmel and Pereira both think it was her eyes to which she gave that dark hue, which was thought so fascinating. Ezekiel refers more directly to this practice in the words, "Thou didst wash thyself, paintedst thine eyes, and deckedst thyself with ornaments." Pereira informs us it was the sulphuret of antimony which was thus used.

Balm of Gilead was supposed to have a medicinal virtue, to which there is direct reference in the question asked by the prophet Jeremiah, "Is there no balm in Gilead? Is there no physician there? Why, then, is not the health of the daughter of my people healed?" In another place it is said, "Take balm for her pain; if so be, she may be healed." And again, "Go into Gilead, and take balm; in vain shalt thou use many medicines, for thou shalt not be cured." It was an article of commerce at a very early period; for we read that the company of Ishmaelites to whom Joseph was sold by his brethren came from Gilead with their camels, bearing spicery and balm and myrrh, to carry it down to Egypt." We learn the value placed upon it from the fact that when Jacob sent his sons the second time to the ruler of Egypt, desiring to propitiate him, he bade them "take a present, a little balm, a little honey," etc. Pliny says, "To all other odours whatever, the balsam is preferred." It was esteemed so precious a rarity that both Pompey and Titus carried a specimen to Rome in triumph. "A small piece of the resin," says Theophrastus, "was so odoriferous, that it filled a large space with its perfume." He adds, that in his time only two enclosures of small extent were known to produce this tree. It was obtained from the *Balsamodendron Gileadense*, or *opobalsamum*. Pereira says it is a whitish, turbid, thick, very odorous liquid, which resinifies and becomes yellow by keeping. Its physiological effects are believed to be similar to balsam copaiba and the liquid turpentine. The most wonderful properties were formerly ascribed to it. It is rarely employed by Europeans, but it is adapted to the same cases as the terebinthines.

By *Brimstone*, no doubt is intended the substance known to us under the same name.

Bdellium is named in the Bible as early as the second chapter of Genesis, where it is associated with gold and onyx stone as one of the productions of the land of Havilah. In Numbers, the colour of manna is likened to *bdellium*; but it is very doubtful if the word translated *bdellium* be a mineral or animal production, or a vegetable exudation. There is a kind of myrrh, the product of the *Amyris commifera*, known as Indian *bdellium*, which is very odoriferous, diffusing a grateful fragrance to a considerable distance. Whether this be the same article or not is uncertain.

Coriander seeds are, no doubt, the same as now pass under that name. They are only mentioned twice in the Bible.

The *Colocynth* plant is referred to, though not by its name, but is called the "wild vine." In the Book of Kings we are told that some of this plant was gathered and used by mistake as a potherb, being shred into a pot of pottage of which the sons of the prophets partook.

Figs.—The trees bearing this fruit are very common in Palestine. There are many interesting references to them in Scripture.

Garlick is mentioned once in Numbers, in connection with fish, cucumbers, leeks, melons, and onions, as the food of the Israelites in Egypt, after which they longed when feeding on manna in the desert.

Gall, Hemlock, and Wormwood.—There is occasional reference to wormwood in the Bible, which is always metaphorical as indicating that which is bitter, and, in this sense, it is sometimes associated with *gall*; as, for instance, "lest there should be among you a root that beareth wormwood and gall." *Hemlock* occurs twice in the Old Testament, but the Hebrew *rôsh*, which in these two places is rendered hemlock, is elsewhere translated "gall," denoting anything bitter. Whether hemlock is the best rendering of *rôsh* is doubtful. The Hebrew word means *head*; and it is more probable that, as Gesenius supposes, the capsules of the poppy are intended.

The *Galbannum* of the Bible, Bishop Patrick tells us, must not be confounded with the common galbanum used in medicine, but that it was a superior sort found on Mount Amonus, in Syria.

Honey is another article of pharmacy often mentioned in Scripture. It abounded in Palestine. The word translated *honey* also applies to a decoction of the juice of the grape, which forms an article of commerce in the East. It was this, and not bee-honey, that Jacob sent to Joseph. A third kind of honey has been described by some writers as vegetable-honey, by which is meant the exudations of certain trees. There is a fourth kind, mentioned by Josephus, produced from the juice of the date.

Hyssop.—Perhaps no plant mentioned in the Bible has given rise to greater difference of opinion than this. Bochart thinks that marjoram, or some plant like it, is indicated. Dr. Royle arrived at the conclusion that it is no other than the caper plant.

Lime and the mode of obtaining it by burning the carbonate were known in the most remote periods of antiquity. It was used by Hippocrates in medicine. It is mentioned only three times in the Bible, in one instance being translated plaister, showing it was used then as now, for cementing stones, etc. There is a still more curious reference to it in Amos, where we read, "Because he burned the bones of the Kings of Edom into lime." This expression indicates a knowledge of chemistry as to the constitution of bones 800 years B.C.

By *Mallow*, no doubt is meant "purslane," which was used as a potherb.

The *Manna* of the Bible is certainly not the same as the manna of our shops, and has no relation to it.

Millet is probably a correct translation; and by it is meant the *Sorghum vulgare*, used in the time of Ezekiel, and at the present day in many countries of Europe, for making an inferior bread.

Mustard Seed.—The tree named in the New Testament has been the subject of much dispute. Great difficulty has been experienced in fixing on a tree on whose "branches the birds can lodge." The *Salvadora persica*, however, answers this description.

Natron and Soap.—The word "*nether*," translated *nitre*, undoubtedly means *natron*. The substance denoted cannot be our *nitrate of potash*. In Proverbs, the incongruity of singing songs to a heavy heart is compared with the reaction which takes place when vinegar is applied to *natron*. In Jeremiah we have the same word again wrongly translated, "Though thou wash thee with *nitre* and take thee much *sope*," etc.; evidently *natron* is intended. The word *ôrith*, translated "soap," is a general term for any substance of cleansing qualities. We may understand the *natron* to represent a mineral alkali, and soap a vegetable one, probably some kind of potash. Numerous plants, capable of yielding alkali, exist in Palestine and the surrounding district.

Olive Oil.—This is one of the oldest drugs known. Jacob consecrated the stone pillar which he set up by pouring oil on its top. It was produced in large quantities in Palestine, and was exported thence into Egypt and other countries,—King Solomon giving 170,000 gallons yearly to the Tyrian hewers of wood. It was used in religious services, in making perfumed ointments, as an article of food and medicinally. Celsus frequently speaks of the use of oil, especially old oil, applied externally, with friction, in fevers, and in other cases. Josephus tells us that amongst the remedies employed in the case of Herod, who "was eaten up of worms," he was put into a bath of olive oil.

Onycha has been supposed by some to have been the gum of a tree. It is now, however, generally believed that it was the shell of a species of mussel, found on the shores of the Red Sea, which, when burnt, emits a smell not unlike that of musk.

Palm.—Although this tree was so well known by the Jews, and its products are so numerous, excepting its syrup called honey, there is no clear allusion to any of them in the Bible.

The word *Pomegranate* is derived from "*pomum granatum*," "grained apple." The beauty of its flowers has furnished Solomon with several allusions. The estimation in which it was held by the Israelites may be inferred from its being specified as one of the luxuries they enjoyed in Egypt. It was one of the three kinds of fruit brought by the spies from Eschol.

Ricinus, the castor-oil plant, was known in very early times

Some of its seeds have been found in Egyptian sarcophagi supposed to have been 4,000 years old. This is the plant which, in the book of Jonah, our translators have rendered *gourd*, and which we are told "was prepared by the Lord to come up over Jonah, that it might be a shadow over his head."

Sponge is only mentioned in the New Testament—in connection with the crucifixion. The commercial value of it was known, however, from the earliest times.

The word *Stacte* signifies an odorous distillation from some plant. It was most probably the gum of the storax-tree.

Vermilion is mentioned twice in the Old Testament. The original word means simply "redness," and may refer to any kind of red paint. Cinnabar, however, has been found in the colouring-matter of the old Egyptian tombs.

Vinegar is mentioned by Moses 1,490 years B.C. By this term is sometimes meant the common sour wine of the country,—the ordinary beverage of the people; at others it indicates a liquid made from grapes, which had undergone the acetous fermentation.

Wax.—Honey having been so abundant in Judea, we naturally conclude wax also would be known. There are a few allusions to it in the Old Testament showing its properties to have been well understood. The Psalmist speaks of his heart as being "melted like wax."

ETHER.

[The following paper was read by Mr. Mackenzie at a recent meeting of the Glasgow Chemists' and Druggists' Association.]

AN interesting group of substances which has of late years received much attention, is found in the ethers which are producible from alcohol by distillation with acids.

A substance called ethyl (C_2H_5)₂ or Et_2 can assume all the properties of a base, just as a metal might do with oxygen and acid. This ethyl is the base of a system of compounds. The oxide of ethyl, Et_2O , is common ether. The nitrite of ethyl, $EtNO_2$, is the body which dissolved in *sp. vini rect.* constitutes sweet spirit of nitre. The acid sulphate of ethyl $EtHSO_4$, is a liquid met with in the preparation of ether. The iodide EtI , the hydride EtH , the acetate EtA , and other salts are of considerable chemical interest, but not used in medicine.

With other substances than those referred to, ethyl forms interesting compounds. Wine, for instance, owes its bouquet, or rich flavour, to the presence of what is termed *anethic ether*, and it is to *pelargonic ether* that whiskey owes its flavour; a writer states that this ether is now manufactured by a secret process, and vended at a high price, for the purpose of imparting to new whiskey the fragrance of old. Butyrate of ethyl closely resembles the flavour of the pineapple, *anethylate* of ethyl recalls greenage, *pelargonate* of ethyl quince, *superate* of ethyl mulberry. By mixing these ethereal salts with each other and with essential oils in various proportions, the odour and flavour of nearly every fruit may be fairly imitated. When we walk in a garden, the delicious odours that greet us are by no means the emanations of one flower. All the blooms of the garden, more or less, add to the general harmony that strikes so gratefully upon the olfactory nerves. When art attempts to imitate the diluting effect of the breeze, she has to be more circumspect; only odours of a similar octave, as a recent writer has pointed out, will agree with each other.

Another authority, indeed, has elaborated this idea, and has composed a perfect gamut of odours, beginning *civet* *verben* and *citronella* in the treble clef, and ending with *wallflower*, *vanilla*, and *pachouly* in the bass clef. The manufacture of these fruit flavours illustrates, in a remarkable manner, how chemistry can extract the sweetest and most desirable substances.

When sulphuric acid is heated with alcohol to a certain temperature, it does not become weaker by taking water from the alcohol; but ether and water distil over together, and the sulphuric acid remains in its original state, ready to act in the same manner on a fresh portion of alcohol.

The reaction is one of substitution, the ultimate result being the conversion of alcohol $C_2H_5(OH)$ into ether, $C_2H_5(OCH_3)$ by the substitution of ethyl for hydrogen. The

best authorities allow the point of etherification to be from 127° to $154^\circ C$.

The crude ether is to be separated from the water on which it floats, agitated with a little solution of caustic potash, and redistilled by a very gentle heat.

The characters of pure ether are well known. A colourless, thin, and mobile liquid, it is neither acid nor alkaline; it has a high refractive power in regard to light, and is a non-conductor of electricity.

Authorities vary a little on the boiling-point of ether, in consequence of the variations in the density, and also of barometrical pressure, circumstances which easily influence the boiling-point of this liquid. The extreme volatility of ether renders it impossible to pour it from one vessel to another without losing a portion by evaporation; and its vapour, in consequence of its density, may be seen to fall from the liquid; it is this which renders it so dangerous to exposure.

The year-book of pharmacy records an accident in distilling ether. A French chemist, M. Adrian, was working in his laboratory, when his assistant quitted, for a few minutes, the place where he was distilling the ether by steam heat; some moments after he had left, he (M. Adrian) observed that the flow of ether was too rapid, and approached the still to moderate the force of steam, when all at once he saw a flame in the middle of the laboratory, which directed itself toward the condensing vessel; the ether took fire and broke the vessel, the contents burst over the still, which boiled over, and threw some inflamed ether over M. Adrian. During the conflagration which ensued, he tried to open a door situated near the apparatus, but failed, and was constrained to traverse the flames which hemmed him in, to reach an open door beyond. During this perilous act his clothes ignited, but his presence of mind served him to jump into a tub of water, which probably saved him from death.

M. Regnault, the writer of this article, asks how an accident of this kind could occur in the laboratory of so skilful an operator as M. Adrian? There was no lamp in the laboratory, and the heat was applied by steam; probably the accident occurred by the current of ether vapour, from neglected refrigeration, traversing the floor of the room through the open door to some source of ignition, and then retracing its path to the still. The density of ether vapour will admit of this theory.

Its density may be well shown by dipping a piece of cotton into ether, and placing it within a glass tube of about an inch diameter, the vapour will descend and escape from the lower end of the tube. Its great inflammability may be shown by boiling two or three drachms violently in a flask, and igniting the vapour as it issues. It burns in a large column of flame with a light like that of coal gas. A small quantity of ether thrown on the surface of water will burn on this liquid in a sheet of flame.

Exposed to air and light, as in bottles which are frequently opened, ether absorbs oxygen as ozone. As one of the results of this absorption of oxygen, acetic acid is produced. The presence of this acid is not at first apparent, because it forms acetic ether, but it gives to the ether a peculiar odour, and in time I have proved it to be acid by test.

The ether of commerce is sometimes found contaminated with water and alcohol; the presence of which may be detected by shaking it up with some oil of copaiaba. If pure, it remains clear, but if water and alcohol are present, it forms an opaque emulsion.

The fixed and volatile oils, many of the resins, various forms of extractive, the alkaloids, and some other vegetable principals, are more or less soluble in ether, hence it is often employed in the analysis of organic products, as a means of separating their proximate principles.

The operation of ether upon the system is analogous to that of alcohol, but more rapid and transient. Swallowed in moderate doses, it produces a powerful effect or impression upon the mouth, throat, and stomach, allays spasm, and relieves flatulence; but, according to some observers, it augments neither the heat of the body nor the frequency of the pulse. In somewhat larger doses it produces intoxication like that caused by alcohol.

Strange revelations have been made lately regarding the use of ether as an intoxicant. Alcohol, I might say, is the popular intoxicant in this country; there are, however, other

inebriants extensively employed. Opium, chloroform, and other narcotics have their devotees, who use them for the same purpose as other persons take fermented or distilled liquors. It is true that opium, chloroform, and other narcotics are not taken so openly as alcoholic drinks, nor are they yet blended with the social customs of our country. In certain parts of Ireland, however, it has been stated that ether is becoming as popular as whisky. The usual quantity of ether taken at one time is from ʒij. to ʒiv. , and this dose is repeated twice, thrice, or even four or six times in one day; it is taken unmixed with water; indeed, its very slight solubility in that fluid would make this a useless precaution. One pint of water dissolves but two ounces of ether. After producing a kind of intoxication, if given in sufficient quantity it causes complete anæsthesia, or insensibility to the feeling of pain. Shortly before the discovery of chloroform it was used for that purpose, but was found to be less efficient and more irritant to the nervous system, so its use has been all but abandoned.

SEA-SICKNESS.*

By SIR JAMES ALDERSON, M.D., D.C.L., F.R.S.,

Consulting Physician to St. Mary's Hospital.

THE cause of sea-sickness and its possible amelioration is a subject particularly appropriate at the present time. It is more agreeable to offer suggestions for relief than to comment on the sybaritic weakness which is generally displayed in impatience of the evils usually to be encountered in a passage across the Channel. When we remember that not half a century ago, people, after waiting days or perhaps weeks for fair wind and weather, were glad to consider a voyage of six hours of tossing and sickness as a very favourable one, one can hardly understand how the present generation feel it unendurable to submit to a single hour and a half after having started at a given time. Though, however, we must admit the fact that we are less brave in meeting discomforts than our predecessors, there is still satisfaction in diminishing those discomforts to the utmost in our power.

We have seen the futility of various childish devices, such as stimulants, globules, ice-bags, etc., all of which, not being based on any true knowledge of the evils to be met, are merely empirical. Rejecting all of these, therefore, it will be well to invite attention to a scientific explanation of the cause of sea-sickness, and to base on that explanation a proposal for a remedy.

A suggestion was made sixty years ago by Dr. Wollaston, that sea-sickness proceeds from pressure of blood upon the brain; and this view is supported by pathological observations, since injury or pressure on the brain is almost invariably attended by vomiting, which is its earliest symptom. Dr. Wollaston explains the way in which pressure is induced upon the brain during the motion of a ship at sea, by reference to the action of mercury in the tube of a barometer. He says "that if a barometer be carried out to sea in a calm, the mercury will rest at the same height as when on shore; but when the ship falls by the subsidence of the waves, the mercury is seen apparently to rise in the tube which contains it." I may add to this, that anyone who has carried a mountain-barometer, and has happened to let it descend suddenly, must have been sensible of a concussion of the mercury against the top of the tube, and must have both felt and heard the blow. In fact, the mere action of walking is sufficient, by the alternate rise and fall of the hand, to produce this effect. Dr. Wollaston considers that the action of the blood on the brain, at the moment of the descent of a ship, is identical with that of the mercury on the top of the barometer, and that there is an actual pressure, and even a blow, which, by frequent repetition, produces nausea and vomiting. Now, it is to be regretted that Dr. Wollaston does not state the true scientific explanation of the apparent rise of the mercury in the barometrical tube, to which inaccuracy may possibly be referred the reason why so little notice has been taken of this valuable suggestion. It is not necessary here to analyse his statement with a view to refute it. The fact is undeniable, that contact does take place between the

mercury and the upper part of the tube with more or less violence, and the proper explanation of the apparent rise of the mercury when the tube descends is this: that when the rigid tube falls, the mercury, having its own inertia, and not being attached to, or a part of, the tube, remains stationary—at least for a time; thus the tube is pushed down upon or over the mercury, and the concussion takes place. Exactly the same occurs between the brain and vessels on the one part and the blood on the other. The approximately rigid brain and vessels are carried downwards, the blood remains by its own inertia, and the consequence is to crowd blood into the vessels of the brain, and so press with increased force, producing a certain shock; this shock and the attendant pressure produce sickness and vomiting. The vomiting thus induced is of a peculiar character—very different from that proceeding from a common disordered stomach; it occurs in a spasmodic manner, and violent retching remains after the contents of the stomach have been ejected. This continuous retching seems to indicate the repeated action of the increased pressure.

Referring to the experience of sufferers from sea-sickness, it is admitted by all that they are most sensible of the miserable feeling at the moment of the descent of the ship. They are also conscious at that particular time of an instinctive effort to sigh or take a deep inspiration, the meaning of which is manifest. During deep inspiration the chest is dilated for the reception of air, and its vessels become more open to admit blood, so that a return of blood from the head is then more free than at any other period of complete respiration; whilst on the contrary, by the act of expelling air from the lungs, the ingress of blood is obstructed. This obstruction is proved by observation when the surface of the brain is exposed by the operation of trephining; a successive turgescence and subsidence of the brain is then seen in alternate motion with different states of the chest. A deep inspiration, therefore, at the time of the descent of the ship tends to counteract the turgescence of the brain.

Sickness is sometimes produced by waltzing. In this case the same theory of pressure on the brain holds good; but during rapid gyration in waltzing the blood is acted on differently: it is centrifugal force which causes the blood to rise in the vessels supplied to the brain. There is an additional cause of cerebral disturbance from the confusion of objects rapidly presented to the eye; from this comes giddiness.

In reference to sickness brought on by swinging, I cannot do better than quote Dr. Wollaston: "Sickness, by swinging, is evidently from the same cause as sea-sickness, and that direction of the motion, which occasions the most piercing sensation of uneasiness, is conformable to the same explanation already given. It is in descending forwards that this sensation is perceived, for then the blood has the greatest tendency to move from the feet towards the head, since the line joining them is in the direction of the motion; but when, in the descent backwards, the motion is transverse to the line of the body, it occasions but little inconvenience, because the tendency to propel the blood towards the head is then inconsiderable."

The last observation of Dr. Wollaston, quite accurate as to the result, plainly suggests the practical bearing of the subject. Knowing the mode in which the ship's movement acts on the brain, we are at once furnished with the only rational way of averting sea-sickness.

The first point is wholly to avoid the upright posture. Every one knows that it is a common practice to lie down, and this is done almost instinctively, but it is also known that to do so, though frequently successful, it is not invariably so. The way in which the motion in a swing affects the brain affords the proper explanation why lying down is not invariably successful; and shows that it is necessary, not only to take a recumbent position, but to lie in the right direction. A person lying down with the feet towards the bows of a ship is, whilst it descends in pitching, in the same position as a person in a swing descending forwards, in which case which case we have seen that sickness is produced by blood being forced upon the brain. On the contrary, a person lying down with his head towards the bows is, during the descent of a ship, in the position of one descending backwards in a swing, in which case the pressure by the blood will be towards the feet, and therefore, relief

* From the *British Medical Journal*.

rather than inconvenience will be experienced, the tendency being to reduce the natural supply of blood to the brain. It is necessary, therefore, not only to lie down, but to do so with the head to the bows; and it is highly desirable that this position should be assumed before the ship begins to move. There is a secondary advantage to be gained by closing the eyes, and so shutting out the confusion arising from the movement of surrounding objects.

If the philosophical explanation here given be the correct one, which there is no reason to doubt, it adds one more to many unanswerable objections to the device of taking passengers in railway carriages on board gigantic vessels. No relief would be afforded by that plan to the miseries of sea-sickness, since, except in a perfect calm, nothing can prevent the rising and falling of the ship, and the consequent action of the blood upon the brain. The sitting posture would be equally unfavourable with the upright, and there would be, in addition, the common motion of a carriage, which alone, with some persons, produces sickness.

It is well to forbear imagining the miseries of sitting, shut up, face to face, with fellow-sufferers, and, at the end of the voyage, of missing the one consolation of leaving the scene of your sickness, with all its disgusting evidences behind, and getting into a clean and pure conveyance free from late contaminations.

It is beside the subject of this paper to discuss the danger of unstable equilibrium from deck-loading, which must raise the centre of gravity and depress the metacentre; also to hint that engineers may promise immunity from danger, whilst the melancholy fate of the *Captain* forbids us to trust in their scientific calculations. One thing is more than probable, that, in rough weather, deck-loading will produce heavy rolling motion.

Short of the wild idea which goes by the name of the "Ferry scheme," with all its doubtful experiments and certain tremendous outlay, much might be done to alleviate the discomforts of the passage across the Channel. There might be larger vessels, with increased steam-power; better means for embarkation; shorter passages might be ensured, and comfortable arrangements might be made, so that every passenger could recline with the head to the bows of the vessel, whether on the deck or in the cabin. All these points might be ensured without any dangerous experiment, and there can be little doubt that the testimony of passengers would soon prove the efficacy of the plan.



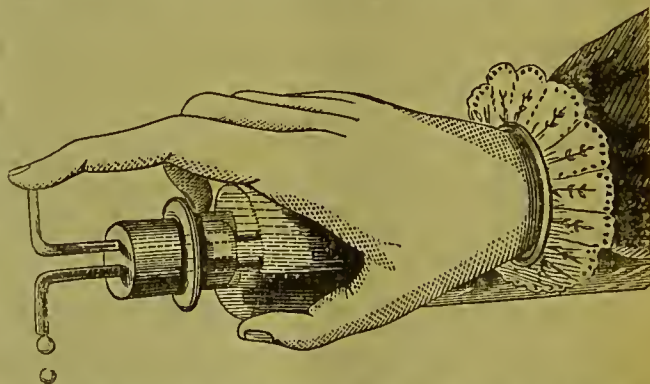
SILICATED PAINT.

THE "Men of Harlech" have achieved glory both in war and song, and there seems now good reason to anticipate for them a no less honourable reputation in the fields of commerce. In the neighbourhood of that little town, far up in the mountains, lies a lake about two miles long and one mile broad, and the bed of this lake is a curious and valuable deposit of almost pure silica in a condition peculiarly suited for its adaptation to many useful purposes, having been calcined by volcanic agency. In appearance and consistence this deposit resembles putty, and the chief use now made of it is to employ the silica as a basis for paints in the place of lead. The putty-like substance has been found by analysis to contain 79 per cent. of silice, 13 per cent. of water, and oxide of iron, alumina and magnesia to make up the balance. The water being dried out of the substance by calcination, we get a smooth white powder with a soft feeling like French chalk, and with this the silicated paints are made in all colours. This deposit is in the hands of a company established in Liverpool and London, and there is every prospect that the resulting manufacture will become one of considerable practical importance. The most obvious advantage which silica has over lead as

a basis for paint is its relative cheapness. A pound of silicated paint will cover almost twice as much space as a pound of lead paint, and the first cost is almost the same. Other advantages are also testified to, such as for instance that they protect the material on which they are laid by the petrifying property which they acquire when exposed to the air, and that they will stand a very high degree of heat without cracking or blistering. From a limited experiment which we have ourselves made, we have reason to be highly satisfied, and we have also been struck with the varnished-like surface which is presented when these paints are used. The same company also manufactures a petrifying liquid from this silica deposit, which for rendering walls waterproof is highly spoken of by builders and architects who have employed it.

HERBERT'S MEDICINE DROPPER.

THE "Medicine Dropper," introduced by Messrs. Herbert and Higgins, is a small invention, but one of undoubted value. It consists of an india-rubber cork (if such an expression will be allowed), through which pass two bent



tubes, one allowing the ingress of air, the other admitting the egress of the liquid, drop by drop. The fall of the liquid can be easily regulated by the finger as shown in the drawing. The corks are suitable for any ordinary-sized medicine bottle, and the method of using the tubes is readily seen. Each dropper is in a neatly-labelled little box, and sells retail for sixpence.

FLUID MEAT.

A SOLUBLE preparation, under the above title, has been perfected by Mr. Stephen Darby, F.C.S., which is likely to become of some economic as well as medical importance. Mr. Darby recently gave some interesting particulars respecting this article to the Food Committee of the Society of Arts, from which we glean the following:—

"Fluid meat contains all the constituents of lean meat, including fibrine, gelatine, and coagulable albumen; by the process pursued these are all brought into a condition in which they are soluble in water and are not any longer coagulable on heating—in which state they have been designated peptones. This change is effected, as in ordinary digestion, by means of pepsin and hydrochloric acid. Lean meat, finely sliced, is digested with the pepsin in water previously acidulated with hydrochloric acid at a temperature of 96° to 100° Fahr. until the whole of the fibrine of the meat has disappeared. The liquor is then filtered, separating small portions of fat, cartilage, or other insoluble matters, and neutralized by means of carbonate of soda, and finally carefully evaporated to the consistence of a soft

extract. But this process, whatever care may be taken, leaves the fluid meat with a strong bitter taste. This bitterness attaches always to meat digested with pepsin; and this, in the opinion of medical men, would wholly preclude its acceptance and adoption as an article of food. In order to remove this bitter taste, and to obviate the objection to fluid meats on that ground, I have made many experimental researches, and have at length discovered that the purpose is completely and satisfactorily effected by the addition, in a certain part of the process, of a small proportion of fresh pancreas. The fluid meat so prepared is entirely free from any bitter flavour."

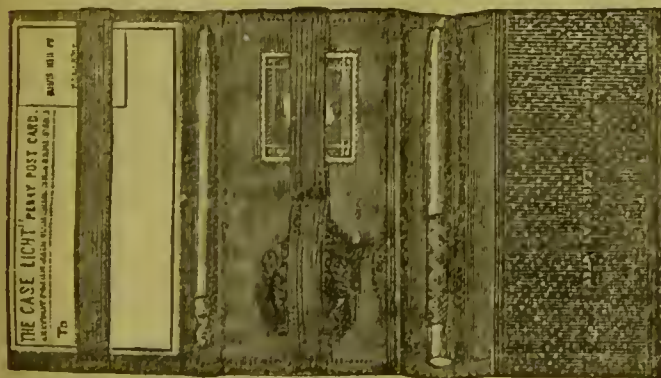
Mr. Darby regards these changes as exactly analogous to the action of the pepsine and pancreas on food in the body. One pound of soluble extract is obtained from twenty pounds of lean meat, and Mr. Darby considers that even by using English beef economy is effected in certain cases, while, of course, the employment of the process in places where meat is much more plentiful would be attended with an equivalent increase of profit.

SPARKLING BLAND.

GINGER BLAND is a new beverage of the lemon- or gingerade order, introduced by Messrs. Edwin Chapman and Co., of Duke-street, Portland-place. Its peculiarity is that, being made from milk, it has the bland taste distinctive of that fluid, and it is claimed that the lactic acid produced gives it special tonic virtues. In the constant thirst suffered by invalids from inflammatory and febrile diseases the bland is no doubt a very serviceable drink, and to persons more fortunately situated it is a most agreeable and refreshing drink. The makers supply it flavoured with lemon, orange, or almond, as well as with ginger.

POCKET-CASE LIGHT.

MESSRS. SAMUEL and PEACE, of Liverpool, have brought out for the delectation of smokers an elegant little pocket-case, which, among many other contrivances, contains their ingenious invention of a sort of pencil-case which supplies a light whenever one is wanted. The pencil-case lighter is



in the case which also contains a supply of friction surfaces. There are also positions for stamps, for cards, and for railway tickets, and altogether the case presents a genteel and compact appearance. It is perfectly safe, and among the better classes will, doubtless, become a favourite pocket companion. When closed up it measures three inches by two inches, and is adapted for the waistcoat pocket.

Logic v. Physic.—Educated young gentleman to young gentleman in the medical profession—"You ain't got no time? Why, you stoopid, look here. To be took every three hours. Now it's only ten minutes' walk from here, so you've just two hours and three-quarters and five minutes for a jolly good game o' buttons."—*Fun*.

ON APPRENTICESHIP.

BY SAMUEL M. COLCORD, OF BOSTON.*

APPRENTICE and apprenticeship are terms now used in a very vague and indefinite manner. Formerly these terms conveyed a definite idea, fixed by law, although not farther back than the Roman Empire they were unknown, and there is no Greek or Latin word to express the idea. It was not until the reign of Elizabeth that apprenticeship took the form of law, when an act was passed called the statute of apprenticeship. At this time in England trades were incorporated, and called Universities. Our present term University was taken from these incorporated trades, and the term of years during which it was necessary to study, in order to obtain the degree of Master of Arts, appears evidently to have been copied from the term of apprenticeship in common trades. The ordinary time of service with most of the trades was seven years, on the Continent as well as in England, although this time varied in some localities, as in Paris it was five years. After the term of service as apprentice was fulfilled, the apprentice became a journeyman, and was obliged to serve five or seven years more, upon stated wages, as the companion of his master, this term being called his companionship. All this course of training was necessary in order for a person legally to pursue his trade or art upon his own account. The object of these incorporated trades was to lessen the number engaged in the business, and to avoid competition, while the avowed object was to produce a higher grade of talent and art.

The practical working of these laws proved to be injurious and useless, discouraging to the apprentice, restricting the supply of manufactured articles, consequently increasing the price, disturbing commercial values, and otherwise injuring and affecting trade. The tendency and operation of these laws also was to form trades-unions for mutual protection, and powerful monopolies, giving rise to strikes, closing of manufactories, and inculcating idleness, poverty, and vice. They therefore became unpopular, and no encouragement was given to prosecutions upon this statute; in fact, so dangerous and fatal were the evils of such combinations and conspiracies, especially among journeymen, that the common law came to abhor all monopolies which prohibit any one from working in any lawful trade. The highest legal authorities in England argued that it was much better that all should begin as journeymen, and be paid for their services according to the value, and "if any one takes upon himself to work, and spoils it, an action on the case lies against him." After a great deal of legislation upon apprenticeship and against combinations, it became at length a settled conviction that trade should be as free as the air we breathe.

The term apprentice means one who is bound by covenant to serve a person for a certain definite time, with a view to learn his art, mystery, or occupation, in which his master is bound to instruct him. Apprentices are regularly bound by indentures. In this sense of the term, as obligatory, apprenticeship was abolished in France at the revolution, and in England (except in London and some of the larger cities and towns), about the year 1814.

In this country, it was a common custom to regularly indenture apprentices after as well as before our revolutionary war, and the custom ceased here about the time it did in England; it was found to work injuriously both to the apprentice and the master, for if the apprentice was not adapted to the trade, or did not like the trade or his master, he was sure either to run away, or to behave in such a manner that his master would drive him away, or willingly cancel his indenture; and if the apprentice was unprofitable, or otherwise obnoxious to the master, he was sure to find some way to cancel the indenture.

After the system of binding apprentices by indenture ceased, custom established the practice of making an arrangement or bargain by which young people should serve some person as master or mistress for a definite term (with males, generally until they arrived at the age of twenty-one years), at some stated compensation, or the payment of some sum by the apprentice for the purpose of learning the art or mystery of the business, and this arrangement still goes by the name of apprenticeship, although at the present day it has nearly or quite degenerated into employing persons of almost any age,

* Read before the American Pharmaceutical Association.

capacity, or qualification, by the year, month, week, or day, at stated wages for the estimated present value of the service to be rendered. Whether we like or dislike the present custom, whether it is profitable or unprofitable either to the master or apprentice, we must come to the conclusion that apprenticeship in this country is obsolete, and as it has existed in the past, will never be revived.

Should any employer doubt this statement, let him listen to the daily conversation of *employés* in our business, and reflect upon it. The questions commonly asked are: "What are you doing now? For whom do you work? What pay do you receive? Do you like them? Are you intending to stay? Is the work easy? And then talk with your neighbouring employers and see who has just had one clerk leave him, and find out the reason why; and talk with another who wants a boy with two years' experience; and still another, who says that he will never employ any more boys.

If the above statements of the past and present condition of apprenticeship are correct, can we prognosticate what will be its future condition with reference to our profession?

During the past twenty-five years, the practice of medicine has undergone a great change. The competition in medical schools has graduated a great number of incompetent and badly-educated physicians, which has greatly lowered the standard of medical science, tending to bring a regular medical education into disrepute, while the eclectics, homœopaths, and other irregular practitioners have established legal schools, and have attained a legal standing and character as practitioners of medicine, and the apothecary business has been passing through a corresponding change; formerly, nostrums of proprietary articles were comparatively few and unimportant, while at the present time at least two-thirds in value of all medicines sold are in the shape of these so-called patent medicines (although none of them are patented), and now we have botanic, eclectic, homœopathic, and patent medicine stores and dispensaries for the sale of these specialties alone. In addition to this state of things, many apothecaries have paid attention to the sale of those articles which meet with ready sale, without the labour and care of preparation, which require very little scientific or artistic knowledge, and which yield a greater profit, and have taken and trained their assistants more with a view to their commercial tact than to pharmaceutical qualification; until now the real apothecary, with qualifications equal to the demand made upon him by an educated medical profession, is decidedly in the minority.

The public, through ignorance of the importance of a thorough education and training, do not seem to require a better grade of apothecaries; young men prefer situations where less labour, study, care, and responsibility are required, and where at first the allurements of ease and commercial transactions, and present profit, outweigh the prospective rewards of science and thorough professional knowledge and usefulness.

To these causes we must attribute the superficial qualification of so great a majority of those now engaged in the business; and to remedy these evils, we should be more careful in the selection of young men to learn the business. Young men should be selected who have had a good English education, with some knowledge of the Latin language; and if they possess some knowledge of the French and German languages, it would be all the better; they should be careful, accurate, reliable, thoroughly honest and persevering, and should enter the business with a view of perfecting themselves in it; they should be between sixteen and seventeen years of age, and should not be engaged for a less term than four years. In all cases where schools of pharmacy are accessible, it should be stipulated that a part of their compensation should be a course of study and training in such school, to be paid for by the employer. The attendance at such school should commence during the second or third year of their engagement, so that the pupil may have some knowledge of drugs before entering the school, and so that he may be able to graduate in the fourth year. The first year should be a trial year, to test the adaptability of the youth for the business; and if it was found that he was averse to going through a thorough theoretical and practical training to enable him to attain to the degree of Graduate in Pharmacy, or if from any cause he was not adapted to the business, and would not be likely to become an accomplished pharmacist, he should be dissuaded from pursuing it.

In all cases where schools of pharmacy are inaccessible, some provision should be made for such attendance, to enable every pupil to become a graduate; and no young man should enter the business unless with a view of becoming a graduate.

With a view of offering greater inducements to young men, employers, whenever it is practicable, should employ porters, or errand boys who intend to become porters, to do a certain amount of labour, instead of having the same work performed by a greater number of apprentices, thus affording more time and a better opportunity for the apprentice to become proficient, and at the same time, be equally remunerative to the master.

With reference to the preceptorship of the master, he should feel it a duty to be able to instruct in all the details of the store and laboratory, and this should extend to the minutiae of every operation of manufacturing and dispensing, as well as the commercial principles and practice. In the laboratory the apprentice should be instructed in and required to observe strictly all the general principles of exactness, cleanliness, and honesty; he should be required to work all formulæ with exactness, observing every condition of detail; he should be instructed in the quality of every article he uses, and the most economical way of treating it; all doubts should be solved, and in every experiment, operations should be conducted with a view to definite results. The apprentice should be instructed practically and thoroughly in such things as weights, measures, temperature, specific gravity, and the way in which these things affect combinations; he should be instructed in the principles, as well as the practice of percolation, digestion, filtration, evaporation, distillation, etc., with a view to exact results. In dispensing, he should be instructed in detail with reference to every article; the form and style of every package should be made to conform to correct taste, perfect safety, and the greatest convenience. With reference to quality, as regards remedial agents, he should be instructed to recognise fully the standard authority of the Pharmacopœia, and with reference to economy or cheapness, in every commercial article or commercial transaction he should be made fully to understand that the cheapest article is that which, in comparison to another, would do the greatest amount of good, or yield the greatest results for the least money, rather than that which would sell for the greatest profit. Having been instructed in these principles, to enable the apprentice to gain full confidence in himself, he should be so trained as to gain the confidence of any person whom he may serve or wait upon, paying attention to all those little graces and amenities of life, which go to make up the gentleman, as well as the accomplished pharmacist.

Having attempted to show that apprenticeship by indenture is obsolete; that by practical experience apprenticeship as compulsory is not adapted to or in agreement with the democratic or republican institutions of the United States; that the popular sentiment of this country is for free trade and free labour, and against all monopolies; that laws restricting the practice of pharmacy and obligatory apprenticeship are unpopular with legislatures, and inoperative when enacted, we must come to the conclusion that some such system as is here proposed must come into use and become the best adapted to this country. It only remains to show what would be the variations from this custom, and what ought to be the custom in justice to all parties.

In the present state of pharmacy in this country, many of its practitioners are incompetent, from various causes, to properly educate a young man in the art and mystery of our business. These men must be supplied with clerks or assistants, and some provision should be made for the proper education of such assistants or apprentices, and they should be allowed to finish their education with some competent preceptor and graduate from some regular school of pharmacy; it should not, therefore, be considered wrong in every case for young men to leave their employers before the expiration of the four years' time, for the purpose of completing their education and graduating, nor should employers be censured in such cases for employing young men for a less term, if with a view to their being perfected in the business elsewhere, although the practice should be discountenanced as far as possible, as well as that of employers who persistently refuse either to leave the business or qualify themselves for its responsible duties. At present this state of things is regulated by competition,

custom, or common usage, and will probably so continue to be regulated, however much we may wish it otherwise.

After as full a consideration of the subject as I have been able to give, I am still unable to propose a general plan to cover all cases, and feel obliged to leave it, with such recommendations as this paper contains, to the good sense and judgment of each individual of our profession, with a view to the best good of the public, and the best interest and greatest professional advancement of the apprentice.

THE CHICAGO COLLEGE FUND.

THE following is a list of the subscriptions promised up to April 12th, 1872.

The members of the Chicago College of Pharmacy, notwithstanding their own great losses, will themselves provide a new building. Their appeal is solely for donations of articles for the library, lecture-room, and museum. British chemists and druggists, unable to give books, etc., are invited to send subscriptions of money, the whole of which will be expended by the Committee in the purchase of appropriate contributions.

Parcels of books, specimens of chemicals, or articles of the *Materia Medica*, apparatus and subscriptions may be sent to Professor ATTFIELD, 17, Bloomsbury-square, London, W.C. Cheques, crossed "London and Westminster Bank," and Post-Office Orders, drawn for "High Holborn," may be made payable to JOHN ATTFIELD. All donations will be acknowledged in the PHARMACEUTICAL JOURNAL and CHEMIST AND DRUGGIST.

Amount previously acknowledged, £442 6s. 0d.

Robert Gatenby, 17, Bloomsbury-square, London	10	6
John Moss, 17, Bloomsbury-square, London	10	6
J. H. Soole, Grays, Essex	5	0

CHEMISTS AND DRUGGISTS OF GLASGOW.

By Mr. Thomas Davison.

Frazer and Green, 113, Buchanan-street	2	2	0
Glasgow Apothecaries' Co., Virginia-street	1	1	0
" " St. Vincent-street Branch	0	10	6
" " Sauchiehall-street Branch	0	10	6
Murdoch Brothers, Sauchiehall-street	0	10	6
J. M. Fairlie, South Portland-street	0	10	6
Alexander Kinninmont, Buchanan-street	0	10	6
John Jaap, Buchanan-street	0	10	6
J.A.C.	0	2	6

ERRATA.

In the list of March 15th, 1872, for "George Deboes, Exeter," read "George Delves, Exeter."

March 15th, 1872. The numerous subscriptions from Manchester were collected under the superintendence of Mr. F. Baden Bengor; those from Exeter by Mr. Ralph Walton.

The following is a list of the books promised up to April 12th, 1872, in addition to those previously acknowledged:—

A Contribution from Paris.—By Dr. J. LEON SOUBEIRAN.—*Dalecampii*,—*Historia Generalis Plantarum*, 2 vols. Pomet, —*Histoire des Drogues*, deux tomes. Nouveau Dictionnaire d'Histoire Naturelle, trente-six tomes. Formulaire Officiel et Magistral International. Science et Nature. Lettres sur la Physiologie. Notice sur l'Emulsion de Coaltar Saponiné. Remak,—*Conrant Constant au Traitement de Nervoses*. Notes sur les Engrais Chimiques. Gariel,—*De l'Audition*. Deleschamp,—*Sous de la Parole*. Lefort,—*Chimie Hydrologique*; *Chimie des Couleurs*. Petrequin,—*Lactates Alcalins*. Du Saulle,—*Les Eaux Minérales de Contrexville*. Essai sur les Falsifications du Sel du Cuisine. Riche,—*Des Alcalis Organiques Volatils*. Un Manuscrit de Guyton de Morveau,—*Sur la Chimie Theoretique*, 1780 (?). Henry,—*Nickel dans Quelques Eaux Ferrugineuses*. Barbier,—*Distilleries Agricoles*. Ebelmen,—*Decomposition des Silicates*. Corte,—*De l'Experience en Physiologie*. Frignet,—*Constitution Géologique de la Californie*. Dujeu,—*Sur la Faune de Gnanajuato*. Grassi,—*De la Ventilation des Navires*. Logerais,—*Eaux Minérales de Pongues*. L'Antier,—*Sur les Fermentations*. Thenot,—*De la Cellule Végétale*. Veines de Fer. Sur le Volume des Atoms. Sur les moyens de rendre l'Eau de Mer potable. Lithologia Meteorica. Damon,—*Note sur un Hydrate d'Alumine Ferrugineuse*. Figuier,—*Sur le Chlorure d'Or et de Sodium*. Sur la Decomposition des Roches. Gerdy,—*Science*. Van Peet,—*Le Chloral*. Bobœuf,—*De l'Acide Phénique*. Sur les Alliages de Cuivre et de Zinc. Jantier et Lefort,—*Études sur les Eaux Minérales et Thermales de Plombières*. La

Production Animale et Végétale. Les Plantés, Poème par Castel. Collection de Mémoires sur la Pharmacie et Chimie de M. Jules Lofort. Twenty-four Thèses on various subjects connected with Science, by gentlemen proceeding to graduate at the École de Pharmacie. A collection of Memoirs (18) on Chemistry and on Pharmacy, by various authors. A Collection of Memoirs (60) on Botany, Natural History, Pisciculture, etc., by Dr. J. Léon Soubeiran. Les Travaux de Chimie de Millon. Otto sur la Recherche des Poisons. Collection of Memoirs (9) on Chemistry and Pharmacy, by Dr. C. Méhu.

H. B. Brady, F.L.S., Mosley-street, Newcastle-on-Tyne.—Seventeen numbers of the Pharmacist.

Professor Redwood, 17, Bloomsbury-square, London.—Pereira's *Materia Medica*, abridged. Edited by Bentley and Redwood.

HYDROGEN THE VAPOUR OF THE METAL HYDRIUM.

IT is now just thirty years ago that the great French chemist Dumas announced, at the termination of one of his lectures on hydrogen, at the Sorbonne, Paris, the following views, then startlingly new and laughed at by many, but now commencing to be appreciated and adopted: "Whatever it may cost me, gentlemen, in the estimation of my colleagues, in giving a new opinion, I ought to express it fully. We ought no longer to consider hydrogen as a metalloid, or as merely approaching to a metal in any form; it ought to be classed by the side of metals or among metals. *It is a gaseous metal, even as mercury is a liquid metal.* If we suppose that it were impossible to liquefy the vapour of mercury, and consider that it is colourless, inodorous, and transparent as hydrogen, we shall have a correct idea of the views I wish to establish. By degrees, you will learn to appreciate the correctness of this new theory; when, for instance, you study the different compound bodies of which hydrogen is a counterpart. The ensemble of the properties approaches, in fact, to mercury and potassium."

Some German authors have now adopted these views, and Hiller calls, therefore, the element H "hydrium," in order to be consistent with the rule accepted in regard to the metals which have no common names, as cadmium, aluminium, etc.; and, according to Dumas' views, hydrogen gas is considered as the vapour of this metal, which, for its condensation into a liquid metal, requires a temperature far below any cold we have thus far been able to produce; and then, for the solidification into the ordinary metallic state, a further degree of cold, perhaps as far below the freezing point of mercury as this is below the melting point of potassium. In order to come to an approximate estimate of such a low temperature, we may consider that hydrogen when cooled contracts like other gases, for every degree $\frac{1}{273}$ of the volume which it possesses at 32° Fahr.; and, inversely, increases as much in volume by heating. It has been surmised by many physicists—among them Clerk Maxwell and Clausius—that as heat thus increases the elasticity of gases, it is the absolute cause of that elasticity, or, in other words, that the cause of that elasticity is the molecular motion, which we call heat, associated with the molecules of the gas; and which, by their increase, cause more powerful impact on one another and on the walls of the vessels containing them, and so increase the pressure. Therefore, the absolute zero of temperature would be the absolute zero of gaseous tension, that is, the temperature at which the gas would cease to have any elastic force, would exert no pressure, or have no molecular motion whatsoever. It would then cease to be a gas, as steam ceases to be a vapour when a sufficient amount of latent heat, that is molecular motion, is withdrawn. As 1° Fahr. added increases the elasticity of hydrogen by $\frac{1}{273}$ of its volume, and each degree withdrawn diminishes the volume by $\frac{1}{273}$, it is evident that, if this law holds at all temperatures, there is no further reduction possible at 490° below 32°, and hence no more heat could be extracted; therefore, the volume of the gas would cease to exist. Hence, if we withdraw heat until we reach—458° Fahr., we should arrive at the absolute zero, at which all hydrogen would become lifeless and inert, and incapable of responding to or assimilating any form of motion, which, under other circumstances, would influence its molecules. Other gases would probably liquefy or solidify before that point was reached; but hydrogen, being evidently the most

volatile of all, would be the last to lose its gaseous condition, and be compelled to liquefy or solidify; it would then be chemically as inert as two pieces of solid metal, which are mutually inert in regard to one another. In short, chemically speaking, hydrogen would have the property of a solid metal; and, physically speaking, as there is no motion called latent heat of fusion or evaporation, there could be no cause for its liquidity of gaseous condition, and it could be in no other condition than that of a solid. These are the legitimate consequences of the modern theory in regard to heat being a mode of motion.—*Scientific American*.

BROWN WINDSOR SOAP.

A WRITER in *Nature* traces ekzematous diseases in many instances to the use of brown Windsor soap. It is more probable that the essential oils used for perfuming some soaps may act as an irritant to the skin in these instances, than that the fault should lie exclusively with the soap. We leave that question, however, and quote his history.

It is a fact but very little known to the multitude of both sexes who use the "Prime Old Brown Windsor Soap" of the perfumers' shops, that by far the largest proportion of it is manufactured from "bone-grease." Few more beautiful examples of chemical transformation are to be found in the whole range of chemical manufacture than this. At one end of a long range of buildings we find a huge shed heaped up with bones, usually such as are of little value to the bone-turner or brush-maker, in all stages of putrefaction as to the adherent or inherent portions of softer animal matter attached to them, the odour of which is insupportable.

These are crushed and ground to a coarse powder, exposed to the action of boiling water under pressure, sometimes of steam, until the grease and marrow are extracted.

From the rest of the material, bone glue and "patent isinglass" are prepared, the latter of which we often eat in the soups and jellies of the pastrycooks, and finally the "bone dust," or phosphate of lime, nearly free from animal matter, which is produced for the use of the assayer and the china manufacturer, &c., as well as for other purposes in the arts.

By various processes, the bone-grease, which is of a dark tarry brown colour, and of an abominable odour, is more or less defecated, bleached, and deodorised, and is separated into two or three different qualities, the most inferior of which goes to the formation of railway or other machinery greases, and the latter is saponified, and becomes, when well manufactured, a hard brown soap, still, however, retaining an unpleasant smell. It is now, after being remelted, strongly perfumed, so that, like the clothes and persons of the magnates of the Middle Ages, its own evil odour is hidden by the artificial perfume.

This is the "Fine Old Brown Windsor Soap" of most of our shops. The natural brown colour of the grease gives it the right tint in the cheapest way, without the colouring by caramel, which was the original method of manufacture.

Like all other things, there are cheap and dear Windsor soaps; and for the production of the former little is done beyond saponifying and casting into blocks or bars. Were we to rely upon the many experiments that have been made as to the degree of elevation of temperature at which putrescent or other contagious matter is deprived of its morbid power, we might conclude that boiling and saponifying had made this hitherto putrescent grease innocuous.

It seems, however, more than doubtful that such is the fact in this case, for the soap thus made seems to be capable of communicating skin diseases when rubbed on the face for use in shaving.

But another promoter of irritation is not unfrequently also found. Whether it be that it is more profitable to the soapmaker to have a liberal proportion of the finer particles of the ground bone made up with the soap, or that these are difficult to separate completely, the fact is that bars of this "Brown Windsor Soap" are to be bought containing a rich mixture of those small sharp angular fragments of bone which before boiling was putrid. When a piece of such soap is rubbed hard to a man's face, the skin is more or less cut and scored by these bony particles held in the soap like emery in a hand "lap," and thus the skin

is placed in the most favourable stato to absorb whatever there may be of irritant, or contagious, or putrid in the soap itself. The existence of the bone fragments is easily verified by solution of the soap in water or alcohol, and examination of the undissolved particles with a lens; and I can readily, if need be, send you a piece of such soap for examination.

I have while using such shaving soap thrice suffered from ekzema of the face. On the first occasion I derived no benefit from treatment by the two most celebrated dermal surgeons in London, and at last the disease went away of itself after giving up shaving for a time. I had by me a quantity of this brown soap, and through inadvertence took to using it again, for a time without effect; but when dry and hot weather came, with it came a recurrence of the skin disease, which also again, after some months of discomfort, went away. Curious to make sure whether or not the soap was the real cause, I a third time employed the soap deliberately to see if the ekzema was due to it. I was in excellent health, and in about three weeks I found the disease re-established, so that I think the soap must be viewed as found guilty. Good white unscented curd soap is now my resource, and with no ill-effects.

Ekzema is always a distressing complaint even when affecting those in the most robust health. With those of bad constitution or lowered health, however, it seems to degenerate into bad or intractable skin diseases, so that probably this notice may not be deemed useless or uncalled for.



[The following list has been compiled expressly for the CHEMIST AND DRUGGIST by L. de Fontainemoreau, Patent Agent, 4, South-street, Finsbury, London; 10, Rue de Fidélité, Paris; and 33, Rue de Miuimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

394. F. Taylor, of Manchester. Improvements in the construction of bedsteads for invalids. Dated 7th February, 1872.
404. J. H. Johnson, of London. Improvements in the production of alcoholic and other fermented liquors. Dated 7th February, 1872.
407. T. Gibb and C. Gelstharpe, both of Jarrow-on-Tyne, Durham. Improvements in the construction of furnaces for carbonating or drying alkaline salts and other substances, and in the method of working the same. Dated 8th February, 1872.
413. J. Young, of Kelly, Renfrew. Improvements in the treatment of natural petrols. Dated 8th February, 1872.
416. A. Cresswell, of Birmingham. Improvements in apparatus for straining or filtering liquids. Dated 9th February, 1872.
422. E. A. Cook, of Viewville House, Edinburgh, and N. M. Henderson, of Micalder, Edinburgh. Improvements in treating hydrocarbon oils. Dated 10th February, 1872.
425. R. F. Smith, of Glasgow. Improvements in obtaining yellow and red prussiates. Dated 10th February, 1872.
435. J. Rebe, of Manchester. A new or improved substitute for animal charcoal. Dated 10th February, 1872.
446. T. M. Wilson, of Arundel-street, Westminster. Improvements in the mode of, and apparatus for, refining or purifying oils. Dated 12th February, 1872.
448. S. Fulda, of Bow. Improvements in the treating of impure or discoloured waters for the purpose of clarifying the same, and in the employment of the refuse for agricultural purposes. Dated 13th February, 1872.
453. P. D. Deans, and D. MacNaughton, both of Leith, Edinburgh. Improvements in the production of sulphate of ammonia. Dated 13th February, 1872.
459. J. Young, of Kelly, Renfrew. Improvements in treating hydrocarbons. Dated 14th February, 1872.
464. H. B. Barlow, of Manchester. Improvements in preserving animal and vegetable substances. Dated 14th February, 1872.
476. T. Rowan, of Glasgow. Improvements in preparing carbonates or oxides of lead and zinc for use as pigments and otherwise. Dated 15th February, 1872.
484. F. Hillé, of Flora Villa, Brentford. Improvements in the treatment and utilization of sewage, and the manufacture of manure therefrom. Dated 15th February, 1872.
486. H. Highton, of Putney, Surrey. Improvements in galvanic batteries. Dated 15th February, 1872.
508. J. Hargreaves and T. Robinson, both of Widnes, Lancaster. Improvements in the production of chlorine and hydrochloric acid, and in apparatus employed therein. Dated 17th February, 1872.
509. J. Hargreaves and T. Robinson, both of Widnes, Lancaster. Improvements in the manufacture of alkalis, and in apparatus employed therein. Dated 17th February, 1872.
513. J. Auderson, of New Buildings, Londonderry, Ireland. Improvements in reducing oxides, and in obtaining iron, sodium, potassium, phosphorus, chlorine, or their compounds, and in apparatus therefor. Dated 17th February, 1872.

525. W. R. Lake, of London. Improvements in cases or vessels for packing caustic alkalies, acids, salts, and other like materials, and in apparatus for forming the same. Dated 17th February, 1872.
535. W. Gikerson, of Diss, Norfolk. An improved measure for liquids. Dated 19th February, 1872.
571. E. Königs, of Irvine, Ayr, North Britain. Improvements in obtaining sulphate of soda or of potash, and hydrochloric acid or chlorine. Dated 22nd February, 1872.
602. W. Weldon, of Putney, Surrey. Improvements in treating and applying dilute chlorine. Dated 26th February, 1872.
617. J. Young, of Kelly, Renfrew. Improvements in treating hydrocarbons. Dated 25th February, 1872.
626. W. E. Gedge, of London. Improved machinery or apparatus for manufacturing manure and the production of ammonia. Dated 28th February, 1872.
642. J. W. Perkins, of Brixton, Surrey. Improvements in the manufacture of phosphates of lime or phosphates of alumina. Dated 1st March, 1872.
656. J. P. R. Poch, of Brussels. A new chemical compound for blasting purposes. Dated 2nd March, 1872.
664. E. M. Adams, of Chelsea. Improved galvanic apparatus to be used for curative purposes. Dated 4th March, 1872.
699. J. Arnold, of West Smithfield. A new or improved instrument or appliance for administering balls and other medicines to horses and other animals. Dated 7th March, 1872.
737. F. H. Ocle, of Salford, Lancaster. Improvements in dentists' busts employed in the display of artificial teeth. Dated 11th March, 1872.
743. W. H. May, of Birmingham. Improvements in stoppers for bottles and jars. Dated 11th March, 1872.
755. S. Bartou, junior, of Cannon-street. An improved rose and nozzle or jet to be used in connection with syringes and other apparatus for distributing water. Dated 12th March, 1872.
765. C. W. Heaton, and E. E. H. Francis, both of Charing-cross Hospital. Improvements in apparatus for filtering oil and other liquids. Dated 13th March, 1872.
799. M. Benson, of London. Improvements in washing, cleansing, and purifying petroleum and other kinds of oil, and in the apparatus for performing the same. Dated 16th March, 1872.

Letters Patent have been issued for the following:—

2269. E. P. H. Vaughan, of London. Improvements in the manufacture of stannate of soda and stannate of potash. Dated 29th August, 1871.
2384. T. Rowan, of Glasgow. Improvements in utilising bye-products obtained in the manufacture of alkali, and in treating cupreous and other metallic solutions and compounds. Dated 9th September, 1871.
2389. W. Weldon, of Putney, Surrey. Improvements in the manufacture of chlorate of potash and other chlorates. Dated 11th Sept., 1871.
2394. M. Mirfield, and J. Scott, both of Tong, near Bradford. Improvements in extracting or recovering grease and oil from soap-suds and seak, or saponeous liquors. Dated 11th September, 1871.
2431. J. Gillingham, of Chard, Somerset. Improvements in invalid couches. Dated 15th September, 1871.
2563. R. Long, of Liverpool. An improved freezing machine and refrigerator. Dated 28th September, 1871.
2631. A. M. Clark, of London. An improvement in alimentary preparations. Dated 4th October, 1871.
2759. A. V. Newton, of London. Improvements in electric batteries, and in the means for exciting the same. Dated 17th October, 1871.
3080. W. Henderson, of Glasgow. Improvements in obtaining chlorine and manufacturing bleaching powder, and in apparatus for those purposes. Dated 15th November, 1871.
3244. J. Leetch, of Broadley-terrace, Blandford-square. An improved detergent compound. Dated 30th November, 1871.
3454. A. Hugentobler, of Brixton. Improvements in the preservation of fresh meat and vegetables, and in the preparation of extract of meat. Dated 20th December, 1871.
3486. H. J. Fenner, of Greenwich, Kent, and F. Versmann, of Fenchurch-street. Improvements in obtaining anthracene. Dated 23rd December, 1871.
106. J. P. Seddon, of Westminster. Improvements in the means of ventilating the sewers, soil-pipes, and cess-pools of dwellings, and deodorizing the gases evolved therefrom. Dated 13th January, 1872.
111. J. Sullivan, of Thornton, Ontario, Canada. Improvements in apparatus for administering pills. Dated 18th January, 1872.
148. W. R. Lake, of London. An improved bag for containing guano, phosphates, and ores. Dated 17th January, 1872.
329. W. R. Lake, of London. An improved method of preparing and preserving hops for the manufacture of beer, and for medicinal purposes. Dated 1st February, 1872.

Specifications published during the month. Postage 1d. each extra:— 1871.

1489. B. Tanner. Manufacture of phosphates of soda, &c. 4d.
1666. G. Sinclair. Treating spent ley. 1s. 10d.
1682. H. Deacon. Manufacture of chlorine and sulphuric acid. 1s. 4d.
1684. H. D. Rawlings. Filling bottles with aerated liquids. 1s.
1783. J. Hargreaves and T. Robinson. Manufacture of sulphates. 10d.
1859. A. G. Brown. Disinfecting water-closets, urinals. 8d.
1897. F. Fenton. Treating sewage, &c. 4d.
1906. W. N. Hutchinson. Obtaining infusions and decoctions. 1s. 4d.
1908. H. Deacon. Manufacture of sulphate of soda, &c. 1s.
1911. P. Abraham. Separating molasses from sugar. 4d.
1918. W. Hunt. Manufacture of chlorate of potash. 8d.
1920. J. Hargreaves and another. Manufacture of sulphuric acid and sulphates, &c. 10d.
1923. J. Hargreaves and T. Robinson. Manufacture of sulphates. 10d.
1947. E. G. Brewer. Belts for preventing sea sickness, &c. 8d.
2008. W. Weldon. Obtaining sulphur from sulphuretted hydrogen, &c. 6d.
2024. C. Crockford. Producing alkalies and their salts, &c. 4d.
2028. J. T. Way. Manufacture of phosphates of soda and potash. 6d.
2040. W. J. Curtis. Obtaining extracts or infusions. 4d.

2059. T. G. Knight. Self-acting barrel tilters. 10d.
2080. B. Tanner. Manufacture of phosphoric acid and phosphorus. 6d.
2084. H. Highton. Galvanic batteries. 4d.
2090. J. Duncan and others. Treatment of saccharine solutions in the manufacture of sugar. 4d.
2095. H. A. Bonneville. Apparatus for filling bottles. 4d.
2122. J. Young. Manufacture of soda. 4d.

Varia.

In the Fields diamonds are drugs now, and drugs are diamonds—that is to say, a very small quantity of quinine is worth a big precious stone.—*Cape Standard*.

A German chemist says that a man would die in twenty-two days if forced to live on bread alone.

BLISSFUL IGNORANCE.—The King of Dahomey attended a grand feast the other day, wearing a quantity of druggist's labels as decorations.

A druggist out West had his name taken off a petition for a street improvement when he learned that it would improve the health of the neighbourhood.

In the California Legislature, recently, a bill was introduced requiring cities to bury "the indigent sick" at public expense.

Note for Darwin: In time the mulberry tree becomes a silk gown, and a silk gown—becomes a woman.

COPAL VARNISH. (*From Dingler's Journal*).—Dissolve one part of camphor in twelve parts (by weight) of ether; to the solution add four parts of clear copal, previously powdered fine. Leave the mixture in a moderately warm place in a well-stoppered bottle, frequently agitating until the copal is partially dissolved. Then add four parts of absolute alcohol, and one-fourth of a part of essence of turpentine. The result should be a viscid liquid, almost homogeneous. If this be set aside for a few days it will separate into two layers, the lower of which contains the most copal, but the higher stratum will be found to give the most brilliant varnish, although it is at the same time as limpid as water.

We have occasionally published some strange orders received for pharmaceutical preparations in this country. An American pharmacist (Mr. H. F. C. Lansing) contributes some decidedly original ones, which are printed in the *New York Druggist's Circular*:—

Two rows of shell powders (Rochelle powders); I want rochelle powder—which paper is it, that buzzes?

Five cents worth of distracted senna (extract of s.).

Sulphur and ink for eye-wash (sulphate of zinc).

Bully moniak (bole of armenia).

Tyrant's appearance (Tarrant's aperient).

Ten cents worth gentleman's magnesia (calcined magnesia).

Ten cents worth of Russian salve for an abscess (abscess).

Twenty-five cents of merry feen (morphine).

Alsolum salts (Epsom salts).

Globular salts (Glauber salts).

Trot-cheese (troches).

Codfish cordial (Godfrey's cordial).

Jayne's expectances (J. expectorant).

Guzzling oil (gargling oil).

Conditionary powders (condition p.).

Borax plaster (porous pl.).

Mrs. Allen's hair reliver (restorer).

Salts of demoniac (ammonia).

Ten cents worth of assafesity (assafetida).

A medical man (?) wanted some small-pox scabs to vaccinate with; another wanted a bottle of pam panashy (panacea), and another called for something to help his wife's purified sore throat (putrid).



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OUR COUNTRY AND COLONIAL SUBSCRIBERS are respectfully requested to furnish any trade gossip that they may consider interesting.

Subscribers are requested to observe that, for the future, the receipt of THE CHEMIST AND DRUGGIST in a *Green Wrapper* indicates that with that number the term of subscription has expired, and that no further numbers will be sent until the same has been renewed. We issue the notice very respectfully, not that we distrust our Subscribers, but simply because we find it impossible to keep an immense subscription list like that we now have, extending to almost every town in the world, in order without an exact system like this.

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SITUATIONS ABROAD.

GENTLEMEN WHO ARE COMMISSIONED TO ENGAGE Chemists' Assistants for Foreign Countries are respectfully requested to avail themselves of the Photographic Album kept at the office of the "CHEMIST AND DRUGGIST" exclusively for each. Terms on application.

SITUATIONS AT HOME.

THE PROPRIETORS OF THE "CHEMIST AND DRUGGIST," anxious to make their Journal more than ever the medium of communication between Employers wanting Assistants, and Assistants wanting Situations, have decided henceforth to print that class of Advertisements on a separate sheet as well as in the body of the Journal, and this separate sheet will be forwarded post free to any address on the 15th of the month on receipt of a penny stamp. The Proprietors will be much obliged if Chemists' Assistants will make this announcement known as generally as possible, as it is in their interest that the plan is proposed.

WARREN'S "SWEET" ESSENCE OF RENNET.

From "THE LANCET," May 13th, 1871.

"This preparation differs from the ordinary liquid and so-called *essences* in its freedom from acid and salt, which after a time affect injuriously the coagulating power of the rennet. Tested with milk, we found it to answer admirably."

From "THE MEDICAL PRESS AND CIRCULAR," July 12th, 1871.

"RENNET IN GASTRITIS.—Having had occasion recently to order rennet whey in the case of a child recovering from gastritis, we took the opportunity of testing, side by side with other similar preparations, Warren's Sweet Essence of Rennet. The observation of its action on milk has satisfied us that it is, of the preparations with which we are acquainted, not only the pleasantest, but the most effective, agent for the coagulation of the caseine. It acts, even under unfavourable circumstances of temperature, rapidly and certainly—a quality not enjoyed by all other solutions of the sort, and seldom possessed by the rennet bag itself."

1s. Bottles packed in one dozen cases, 9s. each, wholesale. Show Cards and Circulars supplied. Discount allowed according to Quantity taken. Orders supplied by most of the Leading Houses.

VICHY WATER COMPANY,

27, MARGARET STREET, REGENT STREET, LONDON.

General Depot for all Mineral Waters.

DISINFECTANTS AT SEA.

The Board of Trade have decided to substitute Chloralum for the Solution of Chloride of Zinc, at present included in the scale of medicines and medical stores issued, and caused to be published by this Board, in pursuance of the "Merchant Shipping Act," 1867.

THE SURVIVAL OF THE FITTEST.

IN tracing out the features of what he calls "the struggle for existence" among plants and animals, Dr. Darwin has shown that there is a constant tendency towards the reproduction of any slight variation in an individual which renders such a one better adapted to the circumstances in which he or it finds himself. Thus he shows that the Survival of the Fittest is mainly the result of a wonderful providence of Natural Selection. The learned author shows that man can himself perpetuate such varieties by constant attention, and by an intelligent selection of the best individuals; but this Selection by Man is just as inferior to the Natural Selection previously referred, as is every artificial work when compared to that of the great instructress, Nature. It is very comfortable to reflect, that processes over which we can have no control, do nevertheless work themselves out in the right way without our aid. Some of us are inclined to wonder how that can be, for we take after the popular American, "John P. Robinson, he who thought the world would go right if he halloed out Gee," and who doubtless held the converse opinion also.

It is so, however, and we pharmacists have good cause to be thankful for the existence of some such universal law as this of Natural Selection. By no other theory can we account for the fact that somehow or another the most able men in our ranks have generally found their way to the Pharmaceutical Council in years that are past. Selection by Man in any intelligent manner there certainly was little if any; chance is an alternative that we do not care to accept; and therefore we find it very convenient to fall back on the Darwinian theory of Natural Selection.

But for good or for evil we have done with that system now; and Pharmaceutical Councils will hereafter be elected by men who will want to judge reasonably concerning the opinions and abilities of those who ask for the honour of representing them. There have been some keen contests during the past few years, and though there is no question immediately before the trade this year as there was last year, there is sufficient occasion for considerable interest to be manifested. We are glad to welcome this increased interest. It is an indication of a healthy condition, and is the best possible guarantee of faithful and able representatives. It is a good sign too to see those who are candidates, or those who have nominated candidates, come forward and give us a reason why we should be asked to vote for such a one. We hope to see the names of the nominators of each candidate published in future years, and far from regarding the announcement of a "platform" or a policy on the part of a candidate himself, as derogatory to his dignity, as it would have been thought a few years back the majority of the voters will, we think, soon come to consider it to be the most manly course, and at the same time, the course most respectful to the electors.

This year forty-five gentlemen have been nominated to fill the fourteen vacant places on the Council, but only just over half of that number have accepted. Twenty-three will go to the poll, and nine of these will have to submit to defeat. This year to select the fourteen seems a much easier task than to set aside the nine. We do not propose in this article to do either, but we do wish to arouse both electors and elected to vigour and breadth of view. We do not want men in the Council who would go in simply for the position it gives them, nor those who merely seek to enjoy "the pleasure of association with excellent colleagues at the Council table." We want representative men—men who understand West-end trade, and men who understand country town trade; men of high pharmaceutical reputation, and men of large commercial experience. It is quite impossible that each provincial town can be represented, but to some degree the members of Council should be scattered among the districts of the kingdom pretty equally. There should, moreover, be men on the Council who will care for the interests of the large number of chemists and druggists who are not electors. The spontaneous and unanimous action of the Council at their last meeting in the matter of jury service is an indication that that consideration is not absent from any of them, but it is still preferable that the "outside" ranks, as they have been called, should have two or three recognised champions. It is not yet forgotten that when Messrs. Brown and Woolley divided the Council on the expediency of submitting the question of poisons regulations to the whole trade, Messrs. Brown and Woolley alone voted for that course. Whatever important questions, too, are likely to arise should have in the Council their best advocates on both sides, if possible. Among the gentlemen proposed there are some who are well known as representatives of some interest. Would it not be more respectful and more satisfactory to those of us who are electors to know what

we might expect from other candidates, who may be equally valuable, but who may be less widely known.

One word as to the retiring members of the Council, Messrs. Edwards, Groves, Reynolds, and Woolley. To one of these, Mr. Reynolds, the trade owes a deeper debt of gratitude than it is aware of. When the Poisons Bill was introduced last year, Mr. Reynolds was the first in the field to oppose it; and only those who worked with him can have any idea of the energy and invincible determination with which he fought against Government interference in any shape or form. He was the recognised leader of that opposition, and splendidly supported though he was, there is no doubt that success was largely due to his untiring labours. Mr. Woolley has been an able champion on the liberal side too, and to Messrs. Edwards and Groves, though they they have generally been less in accord with the views which we represent than the other two, the trade is under many obligations, for they have honourably and ably maintained the credit of British pharmacy, and when they have opposed the majority it has been done conscientiously and courteously.

PHARMACEUTICAL EDUCATION IN THE PROVINCES.

AMONG the candidates for a seat on the next Pharmaceutical Council will be Mr. W. V. Radley, of Sheffield, who is to be put forward partly as a representative of that important town and district, and partly, and it would appear mainly, as a prominent advocate for the establishment of a system of provincial pharmaceutical education, to be subsidized by the Pharmaceutical Society. The Sheffield chemists have been very earnest and persistent in their efforts to obtain this boon, and there is no doubt a strong sympathy with them in other provincial associations. It is likely that the question will come prominently forward both at the annual meeting in May, and afterwards, and consequently, in the deliberations of the Council.

The history of the reason why the chemists and druggists of Sheffield have taken up this subject so warmly, is both interesting and instructive. More than a year ago they established some very excellent classes for the benefit of the assistants and apprentices in their midst; and though the opportunity was one of essential moment to those for whom it was provided, it was soon found that the charms of study, backed though these were by the persuasive frown of the examinations which darkened the future, were no match for the other rural or social attractions which Sheffield could offer. In other words, the classes did not pay; and the Association which had established them found itself involved in a deficit of nearly fifteen pounds on this account alone. Readers are aware that a very similar result attended the efforts of the gentlemen of Manchester, whose provision of opportunities for study was exceptionally thorough and satisfactory. These failures are very discouraging to those who have taken part in the establishment of such classes, though fortunately most of the promoters are men with hearts warranted not to shrink in any shower of cold water, and able to stand hot water too if required. We do not presume to address consolation to them, but to encourage others we may remark that unselfish, honourable work is rewarded oftentimes, not by the applause of majorities, nor by public votes of thanks, but in quite other ways. Nevertheless the fact still remains, and it is a disappointing one. The Pharmacy Act has been passed, and its provisions demand of all future pharmacists a guarantee of competence. At personal inconvenience, with labour and expense, those

now in possession offer to clear the path for their would-be competitors and successors, who with one consent begin to make excuse rather than exert themselves to walk in it. The promoters of these classes not only lead the horse to the water, they actually bring the water to the horse, and yet, as of old, the horse declines to drink.

What then is to be done? Well, some have suggested that the water should be sweetened or perfumed. That apprentices should be almost bribed into becoming students by the temptation of official prizes, or by having their expences partly paid for them, as Mr. Radley and his friends urge. It has never been our system to hinder pharmaceutical advancement, nor is it our desire to check pharmaceutical good works. We honour the one, we aim at the other. And, therefore, it is in no spirit of cynicism that we remind the pioneers of pharmacy that their enthusiasm may carry them too far. It is man's high duty and privilege to help his brother, but it needs much carefulness to do it wisely. We would rather give up all scientific education in the next generation of pharmacists than we would therewith infuse the spirit of a pauper instead of the spirit of a man. It is a pleasant sight to see so many able men all over the country willing to aid the rising generation in their studies if they can only have the opportunity. But it would be a far healthier indication if students themselves earnestly sought the benefit, and were ready to absorb more than could be provided.

We by no means advocate the relaxation of any effort, nor the slackening of any moral tension, in the direction of pharmaceutical education. But we would certainly draw the line at a narrower point than these Sheffield pharmacists would desire. There is a point when it is well to tell the apprentices that if they will not work neither shall they eat. Our Parliament hesitated long, and at last proceeded reluctantly to the work of elementary education; a work of far more pressing importance than any branch of scientific education can be. But who does not see and approve the rigorously distinct manner in which the Education Act guards against the slightest shade of abuse of the powers given by it to pay for the education of children whose parents are necessitous? Those with whom we have to deal are not necessitous; and we still hold the belief which we have expressed before, that no education scheme can have a prospect of permanent success which is not self-supporting.

As a matter of principle, therefore, we hope the Pharmaceutical Society or Council will not be led blindly into any pretty philanthropic-looking scheme of universal endowment which one and another of our amateur legislators may advocate. As a matter of fact, we hardly anticipate much danger. We by no means dispute the existence of "handsome funds" in the hands of the Association in London; but even handsome funds are limited. Sheffield, of course, never expected that the Council would accede to her modest request of £15. Had that been granted, there would soon have been a hungry set of deputations and applicants from every large town in the kingdom; and if Sheffield and Manchester, Liverpool and Glasgow, are to be aided, why not Great Pudlington and Little Pudlington, and Pudlington-cum-Back-street? The Pharmaceutical Society is, and must be maintained as a credit to the pharmacy of Great Britain; but it is not incumbent nor desirable that it should establish a branch educational depôt in every place which owns a parish pump and a druggist's shop.

We have received samples of Messrs. Goosey and Reger's Marginal Plasters, which are very excellent specimens of the art. Especially worthy of notice are their Belladonna Plasters, with adhesive and plain margin, which they make in all the ordinary sizes.

ABBREVIATIONS IN LATIN PRESCRIPTIONS.

THE remarks of Mr. Baron Bramwell at the last Devon Lent Assizes concerning the disadvantages of writing prescriptions in Latin, coupled with those of the learned counsel (Mr. Cole) are worthy of consideration by all interested in pharmacy. The learned gentleman said, in his defence—

"It was a sad thing in these days of common sense that medical men would write their prescriptions in this dog Latin, where the mistaking a single letter might, as in this case, cause the loss of a life. It was time this sort of thing was got rid of. It was, in short, a wonder that more lives were not lost through this stupid and wretched practice, which was adopted by educated gentlemen without any earthly purpose being served by it. If he had anything to do with legislation, he would make it criminal for any medical gentleman to use this dog Latin, and every one should be bound to write his prescriptions in good common Saxon English. The subject, he hoped, would be taken up, and this system of quackery and mystery put an end to."

The occurrence of a mistake through the malformation of a single letter might happen equally well in "Saxon English" as in any other language. It is not the language which is used that is the cause of mistakes, but they frequently arise from the too prevalent habit of abbreviating words. The case in point is an example of this unfortunate habit—*sal.*, *sol.* *v.* *salis*, *solutionis*. That the malformation of a letter by the prescriber, or the misinterpretation thereof by the dispenser, even when written "*vulgò*," be equally possible may be instanced by a case which came under our own observation some few years ago. It is well known that in France a physician is compelled, under heavy penalties, to write all prescriptions in French. A dispenser had used extract of "*savine*" for extract of "*saturne*." The prescriber, Dr. Fournier, subsequently admitted the illegibility of his prescription, and entirely exonerated the dispenser. The lawyer's assumption that the abolition of the employment of Latin as the language of medicine is, therefore, we take it, quite beside the mark.

The usefulness of the Latin language depends upon its strict interpretation, its conciseness, and its adaptability to international purposes, enabling the patient to obtain his medicines in any part of the civilised world. Common sense shows that the practice is anything but a sad one; on the contrary, it proves it to be advantageous in every way. Too much abbreviation is the main fault to be found in our modern prescriptions, but even if prescriptions were written in "*Saxon English*," there is little doubt that the tendency to shorten words would be equally great, and possibly, in some cases, more perplexing. The so-called "*earthly purposes*" useful to physicians who employ Latin as a means of communication between themselves and their dispensers may be classed under three heads, namely—

1st. An international facility of communication, enabling patients sent to Continental watering-places to continue the treatment of the physician who thoroughly understands their constitutions, and who has perhaps known and studied them all his life.

2nd. The confidence of susceptible persons would be greatly alienated from their medical attendant, if they thought he ordered them drugs against which they might have acquired an ignorant prejudice.

3rd. The respect usually accorded to persons of superior education possessing classical attainments. This applies equally to physician and pharmacist.

Such conclusive advantages in favour of its use should stimulate our "*alumni*" to further exertion in the study of

the Latin language. It has been suggested that abbreviated illegibility is due to a wish to appear in great haste. That supposition is scarcely so probable as the "fetch me out of church" stories. For a fee of one shilling, a Chinese doctor is never less than an hour in writing his prescription, and no amount of personal importance can justify an English doctor's undue hurry in writing such a momentous document as a prescription. The use of signs to express weights and measures, should demand especial care, mistakes frequently occurring through badly formed 5s and 3s, and Roman numerals which even a Roman might have been doubtful about.

The signs as well as the weights used by Celsus were totally different from those now in use, and a difficulty often experienced by dispensers is to decipher the sign 5 run through by the tail of a letter on the previous line, causing it to be easily mistaken for 3. The conservative physicians who still employ the scruple sign add another cause of danger. The Roman numerals are also frequently confounded in hurriedly-written prescriptions, a badly made V being mistaken for an X, the absence of a dot, or a malformed ss, frequently perplexing the most careful of dispensers. If they were written in full—drachmas quinque, uncias decem eum semisse—no mistake could occur. Should ever the metrical system be employed, these difficulties will be swept away at one stroke.

The abbreviated words sulph., chlor., phosph., etc., may be construed as sulphates or sulphites, chlorides or chlorates, etc.; the ambiguity of which should not be cast upon the responsible shoulders of the dispenser. Chloric ether is another stumbling-block, and ought to be officially made synonymous with spiritus chloriformi and spiritus ætheris chloriei.

Should English ever be used by prescribers, it will at once throw us back a century in the matter of nomenclature. We know the tendency French physicians have to revert to obsolete names for common remedies, and should one sufficiently antiquated not be on hand, historical ones are disinterred to do duty, for instance, liquor hydrargyri bichloridi would, according to modern systems of nomenclature, be solution of mercuric chloride. Solution of corrosive sublimate would seem quite antiquated enough; but what of Van Swieten's liquor?—how many dispensers know anything of him? Empirical formulae would take the place of ordinary medicines, and the names of Hoffman, Pearson, Helvetius, Stoughton, and hundreds of others would cover the pages of our Pharmacopœia, as they do those of the French Codex.

In Germany, and Russia, notably in St. Petersburg, pharmacy, and pharmaceutical remuneration are infinitely superior, although excessively cramped by superfluous legislation, to their condition in those countries where the vernacular is used. Besides which, the very fact of submitting a document written in a classical language to a chemist, naturally implies that he must be a man of some education, and inspires a greater amount of confidence. There are a few physicians in London, chiefly of foreign extraction, who generally fill in the terminations of the words they employ. It would be well if their example were more generally followed. It would relieve the noblest of professions of a misplaced and undeserved imputation of ignorance and quackery, and would raise them higher in the reputation of their intellectual clients. The light of their classical compositions, would be reflected on pharmacy to mutual advantage. Lawyers and judges would hardly then have cause to laugh at the custom of using dog Latin, which they themselves indulge in to a much greater extent than doctors, if *ca. sa.* and *fi. fa.* may be taken as correlative

examples. That Latin admits of abbreviation, we admit; but clearness ought never to be sacrificed for shortness. Besides, when the Romans wrote S.P.Q.R. and abbreviated their monumental inscriptions, they were writing and speaking their own language, which we are not. The question of the abolition of medical Latin, pharmaceutically considered, is of great importance, but as the profession evidently leans on it as an essential means of communicating their desires to the dispenser, we need hardly fear a revolution for some time to come.



MACMILLAN'S SCIENCE PRIMERS.*

MESSRS. MACMILLAN are to be credited with the most determined efforts to popularize natural science, and this, their latest venture may turn out to be one of their most successful and important. The design of these Science Primers, judging from the one on Chemistry, by Professor Roscoe, is to give an outline for a course of lectures well illustrated with simple experiments, and ultimately to give the young student an accurate, though limited acquaintance, with the elementary facts of the particular branch of science under consideration. The introductory volume of Macmillan's Primers was announced to be from the pen of Professor Huxley, but the illness of that eminent author has delayed the publication. Numbers 2 and 3 are respectively Chemistry, by Professor Roscoe; and Physics, by Professor Balfour Stewart. It is not explained why the orthodox system of teaching Physics first has been departed from, and we see no advantage in the innovation. An intelligent observer, if he had to construct his sciences for himself, would assuredly discover the broad facts of physical science before he suspected the laws of chemical force, and we think a teacher will always find it preferable to follow what may be termed the *natural order*. Submitting, however, with this protest to the arrangement now before us, we take up the Chemistry Primer and find it a very model of perspicacity and accuracy. With this to guide him, and with the five-pounds-ten-shillings-worth of apparatus which is named as requisite, any intelligent man might give a good elementary idea of Chemistry to a school of children. Commencing, as in Faraday's well-remembered course, with the burning of a candle, we are led through the chemistry of fire, and then naturally glide into air and gases, and thence to water. Introducing the non-metallic and metallic elements by considering coal, Professor Roscoe indicates experimental and suggestive remarks on each of them, and closes the course by bringing distinctly forward the laws of chemical combination. We can but admire the natural aptitude which Professor Roscoe evidently possesses for this kind of teaching. Such an able exponent would have hardly found it impossible, we think, to have incorporated into his work a few pages which should have given some idea of the wonders of what we term organic chemistry: not to give the perplexing theories which are now in vogue, but to show with what few materials Nature works out her marvellous variety of design and result. Professor Roscoe will assuredly agree that the arbitrary separation of inorganic from organic chemistry need not for ever be maintained, and he will not maintain that any student can be said to possess even an elementary knowledge of chemistry who is unacquainted with the processes, strictly chemical, which bring us nearest to the mystery of life itself.

Professor Balfour Stewart writes his Physics Primer in a rather more laboured style, but if with more apparent effort, he, no less than his colleague, has attained the same result of perfect clearness. Motion, including sound; heat, including light from heated bodies, and electricity, are the subjects treated of. Nearly twenty poundsworth of apparatus is necessary for this course, including as it does an air-pump and an electrical machine.

* Science Primers. 2. Chemistry, Professor Roscoe, F.R.S. 3. Physics, Professor Balfour Stewart, F.R.S. London: Macmillan.

There is no doubt of the prospective value of these Primers. Natural science is to be a much more important feature of school education than in former times, and though we are not disposed to give its professors control over the exchequer as some of them seem to want, we should have no objection to see even the very poorest children taught something of the harmony and beauty which science has shown to exist in all departments of creation. If to accomplish such an object as this it should be necessary to inflict on the wealthy and middle classes an extra halfpenny rate, we should even then say, let it be inflicted. And we should still say so, even though our utilitarian friends could demonstrate perfectly that natural science was not one atom of practical service to the world or to anybody, for we should think a halfpenny rate well spent, if it lightened with a few rays of pure pleasure the sad path which lay stretched before so many of those poor little wayfarers.

Literary Notes.

Private Book for Goldsmiths. By JAS. E. COLLINS, C.E. London: J. C. Hotten.—We mention the publication of this work, as it may happen to be useful to some of our readers, to whom formulæ of all kinds are valuable. This "private book" professes to give the special formulæ of an eminent firm of manufacturing goldsmiths now no longer in existence. It treats of colouring gold, of gold and silver alloys, and also includes a few formulæ for imitations of gold. The processes whereby gold is reduced from eighteen carats downwards are also quoted. We are, of course, quite incompetent to judge of the technical value of the book.

The Year-book of Facts in Science and Art for 1872 (London, Lockwood) by JOHN TIMBS, has lately appeared. It contains an excellent portrait on steel of Sir William Thomson, and the usual assortment of ably condensed epitomes of inventions and discoveries in connection with mechanism, chemistry, astronomy, physics, and natural history. Mr. Timbs may possibly be thought to pay a little too much deference to the *Times* newspaper as his almost perpetual standard of the value of anything new "in science and art;" and this year we cannot but think that his undoubted talent for arrangement has a little deserted him. For instance, "Thames Water" might have found a more appropriate home than under Mechanical and Useful Arts; and why under the same caption "The Great Fire of Chicago" should appear is not very plain. "Protuberances of the Sun" might have been expected under Astronomy rather than under Natural Philosophy. "Sewage Irrigation" is not exactly a part of Chemical Science, and a "Cruise round the World" has the remotest possible connection with Geology and Mineralogy. Instances of this apparent carelessness might be multiplied. We would also add one word more in the hope of making this useful series still more valuable in future. If the editor would take pains to abstract all his extracts, he might save space for at least three times as many "facts," which there would be no difficulty in obtaining. These, if well classified, would make a book of considerable interest and of no little value.

How to Cook. By T. L. NICHOLS, M.D. (Longmans), is written by the author of "How to Live on Sixpence a day," an accomplishment which even farm labourers are getting tired of. Dr. Nichols seems to be an American physician residing at Malvern, and he tries in this little work to impress his readers with an idea of the great principles which underlie the practice of cookery. The doctor devotes several chapters to the great principles, but he wisely drops reference to them when he comes to describe the culinary processes which form the greater part of his book, and these are abundant, and some of them novel. The book is cheap, sensible, and interesting.

The pamphleteers are now beginning to "go for" the co-operative stores, or, in more exact English, to go against them. Two pamphlets on this subject now lie before us. One is by Mr. A. Teetgen, who is well known in connection with the opposition to the Civil Service Stores. His pamphlet professes to report the proceedings of the House of Little Commons at Westminster, where the chemist's boy, the grocer's boy, the butcher's boy, and a great many

others meet to discuss commercial and political grievances. The unfairness and the undignified character of the Civil Service Association are in this report energetically exposed. The other pamphlet, "Diddledom," by R. L., aims to prove that tradesmen as a body are not such a universal set of rogues as some who argue for co-operative stores would have us believe, and that if customers choose they will be able to buy from them on as good terms as from the stores, besides having the assurance that the principals of the former understand their business, which is often not the case with anybody connected with the latter. We hardly expect much good to result from this pamphlet skirmishing; but we welcome every indication of the righteously indignant spirit of the trading classes, which we hope soon to see strong enough to make itself heard in Parliament and respected in the Government offices.

Dr. Frankland's second series of Lecture Notes has been published, this volume referring to Organic Chemistry. We hope to have a review of it in our next number.

We have received a book of chemical labels from Messrs. Mottershead and Co., of Manchester, respecting which we shall comment next month if it should appear necessary.

We have to acknowledge the volume containing the proceedings of the American Pharmaceutical Association at St. Louis last year. We shall refer more fully to this hereafter.

PROCEEDINGS OF THE PHARMACEUTICAL COUNCIL.*

THE Council held their last monthly meeting on April 3rd, the following members being present:—Messrs. Atherton, Betty, Bottle, Brown, Carr, Frazer, Greenish, Groves, Hille, Sandford, Savage, Shaw, Smith, Sutton, and Williams.

PRELIMINARY EXAMINATION.

The first business transacted was to alter the hour of holding the Preliminary Examinations in the provinces from 12 to 10 a.m. It was stated to be necessary that the examinations should all be held simultaneously, as it had been stated at the Council table that the questions were telegraphed from one place where the examination had been held to another where it had not commenced, and it was very important that there should be no possibility of such a thing taking place.

NOMINATIONS FOR COUNCIL.

The Secretary reported that he had received forty-five nominations for the ensuing election of Council, and that the following twenty-three, of whom ten are members of the present Council, had signified their willingness to accept office if elected:—

BAYNES, JAMES, 24, Waterworks-street, Hull.
 BETTY, SAMUEL CHAPMAN, 6, Park-street, Camden-town, N.W.
 BOTTLE, ALEXANDER, 37, Townwall-street, Dover.
 BURDEN, EDWARD, 38, Duke-street, Grosvenor-square, W.
 CARR, JOHN, 171, High Holborn, W.C.
 CHURCHILL, JOHN, 46, New-street, Birmingham.
 FRAZER, DANIEL, 113, Buchanan-street, Glasgow.
 HAMPSON, ROBERT, 205, St. John-street-road, E.C.
 HILLS, THOMAS HYDE, 338, Oxford-street, W.
 MALDEN, WILLIAM WALTER, 195, Brompton-road, S.W.
 OWEN, JOHN, 234, Upper-street, Islington, N.
 RADLEY, WILLIAM VALENTINE, 74, Market-place, Sheffield.
 SAVAGE, WILLIAM DAWSON, 30, Upper Bedford-street, Brighton.
 SAVORY, CHARLES HARLEY, 143, New Bond-street, W.
 SCHAOHT, GEORGE FREDERICK, 7, Regent's-place, Clifton.
 SHAW, JOHN, 24, Great George-place, Liverpool.
 SMITH, EDWARD, 8, The Strand, Torquay.
 STACEY, SAMUEL LLOYD, 300, High Holborn, W.C.
 STARKIE, RICHARD STRINGER, 4, Strand, W.C.
 STODDART, WILLIAM WALTER, 9, North-street, Bristol.
 SUTTON, FRANCIS, Bank Plain, Norwich.
 URWICK, WILLIAM WALKER, 60, St. George's-road, Pimlico, S.W.
 WADE, JOHN, 174, Warwick-street, Pimlico, S.W.

* Condensed from the Official Report.

NOMINATIONS FOR AUDITORS.

The Secretary also reported that Mr. FREDERICK ANDREWS, of 23, Leinster-terrace, Hyde Park, had been nominated for election as an Auditor.

The Council thereupon nominated the following, in order to complete the list of five auditors:—
BARRON, FREDERICK, 2, Bush-lane, E.C.
HODGKINSON, WILLIAM, 127, Aldersgate-street, E.C.
HORNER, EDWARD, 20, Bucklersbury, E.C.
SQUIRE, WILLIAM, 5, Coleman-street, E.C.

CONVERSAZIONE.

A letter was read from the authorities of South Kensington Museum granting the use of the Museum for the Conversazione on May 15th; and the President, Mr. Hills, Mr. Sandford, and Mr. Williams, were appointed a committee to make and carry out the necessary arrangements.

The reports of several committees were next read and adopted.

DEATH OF AN ANNUITANT.

The secretary reported the death of Mr. Charles Thomas Anderson, of Jersey, one of the annuitants on the Benevolent Fund, who died on the first day of the quarter; and the Council ordered that the sum of £7 10s. should be paid to his widow.

COATS LOST.

The House Committee having reported that several coats had been lost from the hall, the Council requested the President, Mr. Williams, and the Secretary to carry out the necessary arrangements for preventing the recurrence of such losses.

NAME ERASED FROM REGISTER.

It was resolved that the Registrar be instructed, and is hereby authorised to erase from the register the name of John Hall, of Liverpool.

CORONERS AND THE PHARMACY ACT.

It was brought to the notice of the Council that misinterpretations of the Pharmacy Act by coroners had seriously affected the reputation of chemists and druggists. A discussion ensued in which the President, Messrs. Atherton, Groves, Savage, Shaw, Sutton, Sandford, and Smith took part, and eventually it was resolved, on the motion of Mr. Sutton, seconded by Mr. Williams, that a circular should be sent to the coroners throughout the kingdom, giving them an outline of the Act for their guidance.

GRANT FOR EDUCATIONAL PURPOSES.

The report of the Provincial Education Committee was received. It contained an application from the Northampton Chemists' Assistants' and Apprentices' Association, asking for a grant of £10 for books, apparatus, and chemicals, which the Committee recommended should be complied with. It was thereupon resolved that a grant of £10 be made to the Northampton Chemists' Assistants and Apprentices' Association, and paid to the guarantors.

"THE CHEMIST AND DRUGGIST."

The President then drew the attention of the Council to a paragraph which had appeared in the "CHEMIST and DRUGGIST," reflecting on the character of Mr. Carr as a member of the Council, and said he felt his duty to move a resolution on the subject.

It was moved by the President, seconded by the Treasurer, and resolved—

"That this Council have seen with regret a most unjust attack on their colleague, Mr. John Carr, in his capacity as Councillor, and desire to express their opinion that no member of the Council has been more faithful in his devotion to the interests of the Society, or more constant in his attendance at the various meetings during his tenure of office."

PROVINCIAL EDUCATION.

Mr. Frazer then brought forward the following motion, of which he had given notice:—

"With a view to making a more systematic as well as a more liberal use of the funds of the Society in aiding

Pharmaceutical Education throughout the country, I would propose that in future all applications for money votes for this purpose for the year be lodged with the Secretary of the Society not later than the 1st August annually, and that the Council decide at its usual monthly meeting in October. In the interval between the date of application, and that at which the Council give their decision upon them, the Local Secretaries shall examine into the respective merits of each case, and report the same to the Council for its guidance in proportioning the sums to be voted to each applicant."

He commenced by stating that when he gave the notice, he was not aware that the question was causing any feeling in the country, nor had he been spoken to by any one, but it had been present to his mind ever since the meeting in July last, when he consulted Mr. Sandford about it. The balance-sheet for the last year showed that the money expended on provincial education was £48, which seemed a ridiculously small sum, and he believed the reason was the want of a better system for dealing with the question. He did not wish at the present time to go into the question of how much or how little should be voted for provincial education, but rather to enforce the necessity of introducing some systematic plan by which the wants of the country should be met. He thought if, after the balance-sheet was presented, a certain sum were set aside, whatever it might be, for provincial education, and then applications from various associations were entertained, they would be in a better position to deal fairly with all parties, and to accomplish the objects which they had in view.

Mr. SMITH said he was not quite sure whether or not there would be an advantage in combining Mr. Frazer's motion with the one of which he had given notice, namely—

"That the attention of the Provincial Education Committee be drawn to the inadequacy of the assistance rendered by the present system of 'grants in aid of Provincial Schools of Pharmacy;' that the Committee be requested to reconsider the matter, with a view to a more liberal and systematic application of the funds of the Society in aid of Provincial Education, and report thereon to a future meeting of Council."

Both their objects seemed pretty nearly identical. He had not intended to say more than half-a-dozen words in support of his motion, thinking any discussion upon it had better come in committee, if it were referred as he suggested. He agreed with Mr. Frazer that £48 was a miserable pittance to dole out for provincial education during the year, but he did not think the Council were altogether to blame, because they had consistently followed the recommendations of the Committee; and with regard to the Committee, there was this to be said, they were appointed to strike out a new path, a novel task was imposed upon them, and no doubt they did the best they could. Nevertheless the result showed that something more was needed, and he thought some steps should be taken to see if this state of affairs could not be altered. He did not say that the present system was not the best, but he should like it to be carefully considered.

Mr. SUTTON said he remembered being on the Committee, and the discussions which took place, when it was the general opinion they were doing enough for the local associations in making the grants which they did, for if they gave the associations all they asked, he was quite sure they would do them more harm than good. On the other hand, there were, undoubtedly, cases in which students did not get the advantages they ought to have, and therefore it was the general opinion that an extension of these grants ought to be made. The question was, however, whether any such motion were required, for he thought the Committee were quite in a position to deal with applications as they came before them, and would, probably, in future do so more liberally than they had heretofore.

Mr. SMITH said it was evident the present system wanted amendment by the result produced. One difficulty was in getting gentlemen to be sponsors for the materials sent to the associations. There were certain formalities to be gone through, which threw a difficulty in the way of making an application.

Mr. GREENISH said many applications were made which had to be refused through not being in the proper form.

Mr. WILLIAMS said the question was whether the prescribed form was the best that could be adopted. He thought

Mr. Smith's motion would meet the whole of the case, and it was a very fair question whether the present regulations were as perfect as they might be. A great many of their members, both in the country and at the Council, were of opinion that they were not. If that were so, an alteration should be made, but it must be done with caution.

Mr. BOTTLE said the subject-matter of the motion had his hearty sympathy, for he believed they were not rendering that assistance to the provinces which it was their duty to do. But he did not think this was a proper time to bring it forward,—just before the new Council were elected, when there might be a great change in the constitution of the Committee. He would suggest that it should stand over until after the General Meeting.

Mr. SMITH said he thought there was nothing to be gained by delay; if they waited for a new Council, and then for that new Council to get regularly into work, half a year would be lost. At present there was really no system at all.

Mr. ATHERTON said the Society, some time ago, affirmed the principle of granting aid to provincial associations, and a system introduced by Mr. Reynolds was approved by the Council; that was subsequently changed again, and all within eighteen months. And the proof of the great advantage of the aid given by the Council, and the liberality with which it was given, was, that no applications, or comparatively few, had been made for it. He did not find fault with the Council, however, but with the system, which wanted amending, but, at the same time, he agreed there would be no time to do so before the new Council came into office.

Mr. HILLS suggested that the Annual Meeting would be the time to bring it forward.

Mr. ATHERTON said the subject was discussed at the Annual Meeting two years ago, when it was decided that this aid should be given liberally. They could not say that had yet been done.

Mr. GROVES said he would second Mr. Frazer's motion, as he thought it was a thoroughly business-like way of dealing with the matter. If all the applications were received at the time when they knew how much money could be applied to the purpose, they could be dealt with methodically, whereas when they came at different times, the same members of Council were not always present; sometimes the vote went one way and sometimes another. He was, however, entirely opposed to any great alteration in the method of making these grants, and could not approve the idea of squandering money on little associations throughout the country, which could only give very imperfect assistance to students. He thought the great aim should be to establish in some three or four centres, an efficient system of education.

Mr. WILLIAMS thought the idea of making grants once a year a very good one, but the details ought to be considered in Committee.

Mr. SANDFORD thought that the Council did not stand on very good ground with its constituents with regard to this matter. It was understood two years ago that aid should be given to provincial education; since that time rules had been made and altered, but they had never had a clear understanding of what was to be done. Something more than what was being done was required, and he considered that more aid should be given to associations in the provinces, to promote education where local efforts had been shown to be insufficient. He held that there should be a decided evidence of inclination in the districts to help themselves, for if people would not help themselves, they could not expect help from the Society. The report of the Sheffield Pharmaceutical Chemists' Association referred with regret to the falling off in the classes, and "to the marked lukewarmness on the part of the apprentices to avail themselves of its advantages." The Council ought not to encourage that lukewarmness or assist people who did not endeavour to assist themselves. He would propose that the Provincial Education Committee be requested to consider the present regulations for granting assistance; and to assist them in their investigations, they should have before them the propositions of Mr. Smith and Mr. Frazer. He thought it had better be done at once before the Annual Meeting, so that they might be prepared with some explanation, when the question was raised, as it would inevitably be, upon that occasion.

Mr. SHAW said Mr. Sandford's proposition was practically

the same as that of Mr. Smith. He referred to the manner in which various applications had been received, as showing that the system was very indefinite and undecided. He therefore agreed with the spirit of Mr. Frazer's proposition, although he preferred Mr. Smith's, because it necessarily embraced that of Mr. Frazer. The difficulty of getting gentlemen to become guarantors of books or apparatus had been referred to, but all these matters might be discussed better in Committee.

Mr. HILLS thought the great part of the blame, if blame there were, rested with the members in the various towns. It must be remembered that the Provincial Education Committee had been trying an experiment, and past experience would no doubt enable them to act more efficiently in future. If these two motions were referred to the Committee for consideration, they might bring forward a system which would be more liberal and extensive; and the sooner they did so, the better it would be for the credit of the Council and the benefit of the country members.

After some further discussion, Mr. Smith's resolution was put and carried.

Mr. Frazer then withdrew his motion on the understanding that the subject-matter would be considered by the Committee.

EXEMPTIONS FROM JURY SERVICE.

Mr. BOTTLE then brought forward the following motion, of which he had given notice:—

"That a representation of the claims of registered Chemists and Druggists to exemption from service on juries be made by this Council to her Majesty's Attorney-General, urging the insertion of a clause to such effect in the proposed Juries Bill."

He said it was his privilege and pleasure many years ago to render some assistance in obtaining this exemption for Pharmaceutical Chemists. At that time the exemption was limited to Pharmaceutical Chemists, because they were a registered body, and it was said with regard to chemists and druggists, so called, that they could not be included, because there were no means of identifying them, and thus a large proportion of the trade did not receive the privilege which pharmaceutical chemists did. He considered it the duty of the Council to do what they could to assist chemists and druggists who were not pharmaceutical chemists, and he would therefore suggest that a representation be made to the Attorney-General on the subject. Chemists and druggists were not only fairly entitled to such an exemption, but they required it as much as pharmaceutical chemists, for many men of both classes in the provinces had not sufficient business to enable them to keep competent assistants to represent them in their absence, and thus when they were called upon to serve on juries, their business had to be neglected and the public inconvenienced.

Mr. WILLIAMS seconded the resolution, which he considered a very important one. It should be understood that they, as pharmaceutical chemists, had no wish to enjoy any privilege or monopoly which was not shared by other chemists and druggists. If it were right for a pharmaceutical chemist to be exempt from serving on juries, it was equally right that the chemist and druggist should have the same privilege.

Mr. SANDFORD said he should not be doing his duty if he did not say all he could in favour of the proposition. He had always held that chemists and druggists should be just as much exempted from serving on juries as pharmaceutical chemists. It was not any reward or privilege, but simply a provision for the benefit of the public, it being considered that when chemists were taken away from their businesses, the public safety was imperilled. It was on that ground alone that exemption could be asked for. The same principle ran through all exemptions of this kind. Certain men were exempt because they were servants of the Crown, and might be influenced, others were exempt because they were servants of the public, and were more useful to the public in their private vocation than in the jury box.

Mr. BETTY said he was not at all surprised at the view now taken by Mr. Sandford, because he knew it was that which he had always held. At the time of the passing of the Pharmacy Act, 1868, the difficulty about the general body of chemists not being exempt was got over, because a Committee was then sitting on general exemptions from

serving on juries, under Sir William Erle. Had that Committee not been sitting at the time, the question would have been brought forward then, and the Act must either have been sacrificed, or the exemption of the whole body have been insisted upon. It was then said, however, that the matter was not ripe for decision, owing to the Government having a Committee sitting upon that very subject, but it would now be breaking faith with those with whom a sort of contract was entered into if the first opportunity were not taken of carrying out the wishes of the whole body, and obtaining for them the exemption from jury service.

The resolution was then carried unanimously, with the addition of the words, "*That the Parliamentary Committee be requested to take action thereon.*"

REPORTS OF THE BOARDS OF EXAMINERS.

March, 1872.

ENGLAND AND WALES.

Examination.	Candi- dates examined.	Candi- dates passed.	Candi- dates failed.
Major.....	7	5	2
Minor	21	10	11
—	—	—	—
	28	15	13

Two certificates were received in lieu of the Preliminary examination, namely—University of Durham, 1; University of Oxford, 1.

SCOTLAND.

Examination.	Candi- dates examined.	Candi- dates passed.	Candi- dates failed.
Major	1	1	0
Minor	3	1	2
Modified	3	1	2
—	—	—	—
	7	3	4

A letter was read from the Local Government Board (Medical Department) announcing that Sir Robert Christison had ceased to act as visitor of the examinations in Edinburgh, and that Dr. Douglas MacLagan would henceforth act in his stead.

The election of members and associates concluded the business of the Council.



THE ELECTION OF COUNCIL.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—Before the issue of another number of your paper, the election of members to fill the empty seats at the Council of the Pharmaceutical Society will have taken place. Will you allow me to avail myself of your pages this month, to request those who vote to consider the claims of the Midland district, of which Birmingham is the centre, to a representation at the Council Board. This great district, which commands so large a part of the industrial resources of Great Britain, is at present unrepresented.

At a recent meeting of the Council of the Midland Counties Chemists' Association, it was unanimously resolved to propose Mr. John Churchill, of New-street, Birmingham, as a suitable representative, and he has accordingly been nominated by the President of the Association, and will be presented for election.

The result of the elections last year induced me to relinquish the intention of again becoming a candidate, though the recollections of the agreeable associations of the Council table, were such as to render the deprivation a personal loss. Yet I find I have been again nominated by an unknown friend, and though I know many of my friends are desirous I should stand, I have been compelled by various considerations to decline doing so.

May I, on this account, venture to ask those who might

have honoured me with their votes, to bestow them upon Mr. John Churchill, who, I am sure, will not disappoint the confidence of the constituency.

I am, Sir,

Yours very faithfully,

GEORGE DYMOND,

President of the Midland Counties Chemists' Association.
Birmingham, April 5th, 1872.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—Some of my pharmaceutical friends have done me the honour to think me worthy to represent them on the Council of the Pharmaceutical Society, and have nominated me for the ensuing election.

It is fresh in my memory that rather grave complaints have been uttered against the action of some of our representatives, founded upon a supposed inconsistency between their acts when members of the Council and the views they were supposed to entertain before election. This impression may possibly have arisen from imperfect knowledge of what those views really were, and the contingency points at once to the desirability of some public expression of opinion on the part of those to whose management the important interests of the whole trade are about to be entrusted.

The Executive of the Pharmaceutical Society now wields an important power, for the proper exercise of which every member of the constituency is in part responsible. It is his duty to test to the utmost of his ability the qualifications of the candidates, and to observe their conduct when elected as representatives. Equally, as it seems to me, it is right that all candidates should frankly express their views upon most points of pharmaceutical politics, and that the proceedings of the chosen ones should be made as public as possible.

At any rate, I will endeavour to make misapprehension about myself impossible. Personally, I have no craving whatever for the honour of a seat at the Council Board, but I am most anxious that certain views, which I hold and which in my belief are held by a large majority of our body, should be represented.

Now the point upon which there is still the strongest reason to desire that the constituency and its representatives should be at one is:—"Shall regulations for the storage of poisons be compulsorily enforced upon the trade or not?" Until this question is definitely settled pharmaceutical progress runs the risk of being much interrupted. I therefore devoutly hope that as far as the expression of opinion on the part of the members of the Pharmaceutical Society can determine the matter, it may be disposed of at the coming election.

I wish to say, then, plainly, that I oppose *in toto* any further legislative interference in the internal management of our shops. The law already protects the public against the ignorant and careless *public*, by providing that all purchases of poisons shall be attended with certain precautions; it also protects the public against ignorant and careless *pharmacists*—against the ignorant, by requiring that all who practise pharmacy shall be *not* ignorant; and against the careless, by providing a list of pains and penalties to follow any serious breach of care.

If a few officials desire to impose more than this upon the members of the trade, I deem it to be only consistent with common self-respect that we not only abstain from helping them, but that we protest against their action and oppose it.

Such, in a few words, are my views upon this subject. There are other topics upon which I feel tempted to enlarge, notably the very important one of education; but for the reason already advanced, I prefer, if possible, to take a vote upon the issue just indicated. I ask, therefore, each voter to be good enough to waive for the moment every other feeling for myself he may happen to entertain, and, if those ideas are distasteful to him, to oppose my election by all legitimate means. If, on the other hand, they commend themselves to his judgment as right, then, not only do I ask him to vote for me, but I also ask for his active help in support of all candidates of similar views.

I have the honour to be, Sir,

Your very obedient servant,

G. F. SCHACHT

Clifton, April 6th, 1872.

The following letters have been received in reply to an offer of space which we made to the several candidates. The other gentlemen, for various reasons, decline to publish any statement of their views :—

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

DEAR SIR,—I have no address to offer, but it seems reasonable that you should endeavour to ascertain, for the information of your readers, the views of *new* candidates for the Council.

EDUCATION.—As one of the founders, and for twenty years local secretary of the Society, I have ever taken an interest in the promotion of technical education, and so far back as 1842, corresponded with the late Jacob Bell on the desirability of the Council assisting in the formation and establishment of provincial schools. Mr. Bell agreed with the views I then expressed, and I believe some grants were made. So long as the Society remains an educating body, it seems to me but reasonable that some portion of its funds should be devoted to like objects in the provinces. Of course caution will be needed and local schools will have to rely mainly on their own efforts.

JURY SERVICE.—All registered chemists ought to be exempt from serving on juries; the smaller the establishment, the stronger becomes the claim for exemption.

BENEVOLENT FUND.—Although not the primary object of the Society, it is desirable this fund should be kept up to a point equal to all legitimate claims upon it. I believe the trade to be good for a larger annual amount than has yet been raised, if urgency be shown. It appears to me that following the example of all the leading life assurance societies, we ought now to invest the accumulated funds so as to produce at least one per cent more than at present; this would provide for three additional annuitants.

POISON REGULATIONS.—I should have been glad if the general qualifications of a candidate could have been accepted, rather than his views on a single question. Last year I took an active part in opposing compulsory regulations, and further consideration has in no way lessened my objections to Parliamentary or other interference, until at least reasonable ground for legislation has been shown. There is a growing sense of responsibility in dealing with poisons, and as infallibility cannot be bopped for, and it would probably be impossible to frame regulations which could safely or judiciously be made compulsory on all chemists it is far better to let well alone. The percentage of preventable accidents is happily very small, but might easily be increased by unnecessary legislation. Educated intelligence is in every way superior to pecuniary penalties, Parliamentary restrictions, or mere mechanical arrangements.

I am, dear Sir, yours faithfully,

Hull, April 11th, 1872.

JAMES BAYNES.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

DEAR SIR,—I accept your invitation to make known in as few words as possible my opinion on two subjects which appear to me the most important to chemists at the present time.

1st. I am strongly opposed to compulsory regulations, believing a man can conduct his own business with greater safety to himself and protection to the public, by carrying out his own system, rather than by adopting the novelties of others.

2. I shall be happy to support any wise means for bringing the whole trade of chemists and druggists into the Pharmaceutical Society, so as to form a strong and united body, with identical interests. Numbers would then tend to prevent rash and hasty legislation, and also greatly increase the yearly income of the Society, thus placing funds at disposal for grants to efficient lecturers on chemistry and pharmacy in London and throughout the country.

In conclusion, I would observe that last year with others I took an active part in opposing "the compulsory regulations," and from information then obtained and received up to the present moment, I am induced to say to each member of the Pharmaceutical Society that in a great measure on the individual vote given depends whether or not the "compulsory regulations" be attempted to be imposed on us again.

I am, dear Sir,

Yours truly,

60, St. George's-road, Pimlico, S.W., H. W. URWICK.
April 12, 1872.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

Mr. Alexander Bottle presents his compliments and many thanks to the Editor of the CHEMIST AND DRUGGIST, for kindly placing journal space at his disposal for a "concise expression of his opinions on pharmaceutical topics, in anticipation of the forthcoming election." In declining to avail himself of this courtesy, Mr. Bottle desires to express to the Editor, and through him to the numerous readers of the CHEMIST AND DRUGGIST, that in seeking re-election to a seat on the Council, he does so with the conviction that the opinions he has hitherto expressed, and the progressive policy he has advocated and supported, are in general accord with the views of a large majority of those whom he again seeks the honour of representing at the Council table; and upon this basis only would that honour be esteemed by, or acceptable to himself.

Dover, April 12, 1872.

WONDERS OF OUR EXCHANGE COLUMN.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR MR. EDITOR,—I advertised in your last month's issue in the "Exchange Column" for sale two show carboys—never thinking for a moment that I should have so great a task. In about three, or at most four days after the appearance of the journal, I had no less than sixty-one applications from correspondents hailing from John O'Groat's to Land's End, in fact from nearly every county in England, and nearly all in Scotland, not excepting the Channel Islands. I was much pleased with the correspondence, it was characteristic of and bearing the strange smell peculiar to drug stores—your readers will know my meaning; do not customers often say, when the shop door has been closed for a few hours, Dear me! what a peculiar smell! or What is it smells so strong? at the same time sniffing the air as if it were some powerful perfume. It was so with the letters and postal cards I received during this correspondence. To be serious, however, I must state that it would have been far more agreeable to me, if those correspondents wishing for an answer, or asking for a reply to their communications, would have enclosed either a post card or penny stamp. I advertised the pair of carboys with "cut stoppers" for 10s.; if I had answered all the letters, 5s. would have been spent in doing so. This is astounding: a pair of globes for 5s., nay it is carrying the joke too far. The carboys in question were not my property, I only undertook the sale for trustees. A few days before the advertisement was sent to your office, a gentleman representing one of our largest and most respectable sundry houses, valued the pair *second-hand* at 21s., therefore in asking 10s. I could not deceive anyone. May I suggest to those availing themselves of the privilege of your exchange column, which will doubtless prove of untold value to the trade, *not to forget to send stamps for reply*. I should never think of doing otherwise—yet will you believe it, Mr. Editor, only one of the sixty-one applicants sent a stamp; he, of course, proved to be the purchaser.

One of the applicants had the conscience to say, "If you feel disposed to send them per railway to my address soon as convenient I will send you 7s. after receiving the globes, if in sound condition." If no other applicant had come forward this gentleman would not have been the buyer. With this solitary exception the letters were all, as stated above, gentlemanly, well written, and some of them very interesting communications—one written in French delighted me very much, and brought forcibly to mind many happy days spent on the Continent in days of "Auld lang syne."

Trusting the "Exchange Column" will become increasingly useful to the whole trade,

Faithfully yours,

J. F. ROBINSON.

Frodsham, April 4, 1872.

MR. STALEY'S (Manchester) "Master McGrath" dog soap is a cheap and useful article. The maker supplies it in glass-top cases holding a dozen cakes.



Queries received after the 10th of the month cannot be attended to in the immediately succeeding issue. The Editor will endeavour to obtain any required information for correspondents, but he cannot undertake to send answers through the post.

F. G. C.—"The Journal of the Chemical Society" (Van Voorst), 1s. monthly; "The Chemical News," 4d. weekly; "Journal of the Linnean Society" (eight numbers per annum), 2s. each (Longmans). The British Pharmacopœia has never been published in Latin.

B. (Glasgow).—The subjects you refer to are not neglected by us.

Mr. Seddon (Fleetwood).—POLISH FOR PATENT LEATHER.—The following is from Cooley:—

Whites of two eggs.
One tablespoonful of spirits of wine.
Two large lumps of sugar.
Finely-powdered ivory-black.

as much as may be sufficient to produce the necessary blackness and consistency. To be laid on with a soft sponge lightly, and afterwards gently rubbed with a soft cloth.

Mr. Nicholson (Brigg).—The latest edition of Grey and Redwood's "Supplement to the Pharmacopœia" was the third, dated 1857.

Z. L. (Worcester).—A receipt for "Golden Lotion for Itch" was published in the *Chemist and Druggist* a few years ago. Can any reader kindly refer us to it? Messrs. Battley's Liquor Opii Sedativus is a very different preparation from Ext. Opii. Liq., B.P. In Messrs. Deane and Brady's valuable microscopic investigations (1864) they say, in reference to Messrs. Battley's Liquor, "We have examined it frequently, and have always met with the same characters. . . . Though we have experimented much with a view to preparing a similar liquor, we have not yet arrived at an identical result."

J. A. (Bolton).—We are not able to answer your question exactly. More than 40 per cent. of the deaths in the United Kingdom are children under five years of age.

A. B. wishes to know where he can obtain insect bellows to put insect powder in.

Should patent medicines be labelled poison? Section 16 of the Pharmacy Act expressly exempts "the making and dealing in patent medicines" from its operation. The only question is whether proprietary medicines, generally called "patent," would be so regarded. We think they would undoubtedly; but the Pharmaceutical Council should obtain a special reply to that question. We are glad to see that the Council has decided to enlighten all coroners as to the provisions of the Pharmacy Act.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—What is below will, I think, show the need of the schoolmaster even in Somersetshire. Yours, etc., T.

(We select a few of the curiosities sent.)

Apquna whine.
Hoppydildock.
3d. Worth of Pink Sympathy Powder.
White Vitral To Mak i Water.
½ oz. Improvian Bark, powder.

Sir,—Will you send me a box of your brown Oiment what you sell for caching.
Pleas send a led siringe for a kfeameal to youse if you have oue.

M. P. S.—See our German correspondence.

Two or three queries are held over, as we hope to be able to answer them better next month.

MEDICINAL USE OF TOBACCO.—M. Fontana, a physician who flourished in the 18th century, made many experiments with tobacco as a medicine. He found it most useful in many cases, and although a drop or two of the chemical oil of tobacco being put on the tongue of a cat produced violent convulsions, and death itself, in the space of a minute, yet the same oil used in lint and applied to the teeth was found of service in the toothache. Of course this would not apply to cases of persons who had a decided antipathy to the weed, nor must oil be taken internally on any occasion. Bates and Fuller give some receipts in which tobacco is an ingredient, and strongly recommend its use in asthmatic cases.

NOUN ADJECTIVES.—In Mr. Ince's article on the Preliminary Examination in our February number, one of the questions quoted was, "How are noun adjectives of three articles declined? Decline one." Several students have written about this question, and one appears to have written to the editor of a Scotch paper to tell his griefs. After quoting the question, the Editor thus replies to disconsolate "Enquirer":—"To us the question seems absurd, but then people who sell Peruvian bark use dog Latin, and that circumstance may account for the seeming cynicism of the inquiry." Mr. Ince gives the following explanation:—

"A noun adjective is a term given to a Latin word when, being an adjective, it is declined like a noun substantive. It is declined either with three terminations: as *bonus*, thus—*Bonus, bona, bonum*, and of this class there are many varieties; or with three articles when it follows the construction of the third declension.

Thus *tristis, melior, and felix*.

Example:—N. *Hic tristis.*
G. *Hujus tristis.*
D. *Hic tristis, etc.*

Also *Hoc tristis, and Hoc tristo.*

The whole subject is elaborately explained in the Eton Latin Grammar. The question was inserted into the Preliminary Examination, because some students use old, and others modern manuals." It is only fair to add that none but students who had used the Eton Latin Grammar would have been likely to comprehend the question exactly. We are not acquainted with any other Latin Grammar in which reference is made to noun adjectives of three articles.

CHEMICAL SOCIETY.

PROCEEDINGS of the Chemical Society, March 21, 1872; Dr. ODLING, F.R.S., Vice-President, in the chair.

In the course of the ordinary business the chairman announced that the Faraday lecture would be delivered by Professor Cannissaro, on Thursday, 30th May. A communication from M. Maumené, of Paris, was then read by the secretary, in which he denied the existence of the hyponitrous acid recently discovered by Dr. Divers (Proceedings of the Royal Society, xix. 425) on purely theoretical grounds, unsupported by any experiments or analyses. Dr. Divers, who was present, kindly explained M. Maumené's theory. An interesting discussion took place on theoretical points connected with some remarks made by Dr. Debus, in which he stated that no organic compound existed in which the number of atoms of hydroxyl, HO, was greater than the number of carbon atoms.

The anniversary meeting of the Society, for the election of officers and council, will be held on Saturday, the 30th March, and the next ordinary meeting on Thursday, 4th April, when Dr. Schorlemmer, F.R.S., will deliver a lecture on the "Chemistry of the Hydrocarbons."

Saturday, 30th March.

The anniversary meeting of the Society was held, when the President delivered the customary address, congratulating the Fellows on the increase of their numbers, but pointing out at the same time the comparatively small number of papers communicated to the Society. The apathy and lethargy from which chemical science in this country is at present suffering he believed to be due to a great extent to our system of University education. After the officers and council for the ensuing year had been elected, and the usual votes of thanks proposed, the meeting was adjourned.

Thursday, 4th April.

The President, Dr. Frankland, F.R.S., in the chair. After the usual business of the Society had been transacted, Dr. Schorlemmer, F.R.S., delivered a very interesting lecture "On the Chemistry of the Hydro-carbons," defining organic chemistry as the chemistry of hydro-carbons, and their derivatives. The characteristic properties of the paraffin, olefine, and acetylene series, and their relations one to another were discussed, as also those of the great aromatic group, the speaker pointing out the great assistance derived from the atomic theory in determining both the constitution of isomeric compounds, and also the relations existing between the various members of the aromatic series. After a short discussion the meeting adjourned until Thursday, the 18th instant, when it is announced that eight papers are to be read.

EFFERVESCENCE AT DELHI.—On the first consignment of seidlitz powders in the capital of Delhi, the monarch became deeply interested in the accounts of the refreshing box. A box was brought to the king in full court, and the interpreter explained to his majesty how it should be used. Into a goblet he put the twelve blue papers, and having added water the king drank it off. This was the alkali, and the royal countenance expressed no signs of satisfaction. It was then explained that in the combination of the two powders lay the luxury, and the twelve white powders were quickly dissolved, and as eagerly swallowed by his majesty. With a shriek that will be remembered while Delhi is numbered among the kingdoms, the monarch rose, staggered, exploded, and, in his last agonies, screamed, "hold me down!" then, rushing from the throne, fell prostrate on the floor. There he lay during the long-continued effervescence of the compound, spirting like ten thousand pennyworths of imperial pop, and believing himself in the agonies of death—a melancholy and humiliating proof that kings are mortal.

CHEMICAL PATENTS.

MR. E. K. MUSPRATT gave the following evidence to the Committee on the Patent Laws in the House of Commons the other day:—"I am a chemical manufacturer, and a member of three large firms in that trade. My experience, which now extends over several years, has convinced me of the evils of patents. I have for a considerable period given serious thought to the subject, and I am convinced that whatever advantages a patent law may possess in the chemical and metallurgical manufactures, it entails far more evil than good. My reasons for thinking so are as follows:—A manufacturer in the present day is obliged continually to introduce improvements so as to keep abreast of his competitors, or he will be ruined, and as the greater number of these improvements are made gradually as necessity arises, and as they do not require any exceptional intelligence, but only careful observation and technical training, they ought surely not to be subjects of patents. But under the existing law anything may be patented, and the intelligent manufacturer is often obstructed in the proper conduct of his business and prevented from adopting improvements, suggested either by himself or those in his employ, for fear of litigation. Besides this, chemical patents are very frequently, if not always, crude suggestions of no value till worked out by practical men; and although there appears to be some doubt amongst patent lawyers whether, under the present law, a principle or chemical re-action can be patented or not—as an invalid patent is to all intents and purposes as good as a valid one until it has been tried before a competent tribunal—the evils of patenting from crude suggestions merely, and thus blocking further improvements, certainly exists. I may cite as illustrative of these injurious effects the alkali manufacture in which I am engaged. This was first introduced on a large scale by my father. The principle and basis of the manufacture are just the same as when first discovered by Leblanc. Hosts of patents for the improvement of the process have been suggested, but hardly one has been adopted as originally suggested, and the fear of litigation has prevented the adoption of several which contained the germ of valuable improvements, but such as could not be rendered practical until worked out by practical men. This was stated by Dr. Hoffmann. In his reports on the exhibition, alluding to the most important processes which have been proposed to supersede Leblanc, he says: 'In these processes, the number whereof indicates the vitality and importance of the soda trade, are involved many new principles, none of them, perhaps, of immediate utility, but all of them interesting, and several likely to become practically available.' These remarks, in my opinion, apply to all chemical manufacturing processes, and, bearing them in mind, it is not difficult to see how injurious patents must be; for, by granting a monopoly to the original suggestor, who may be perfectly incapable of working out his idea, others, in whose hands the process might become available, are prevented from using it. A bad patent, if judiciously handled, may be made just as remunerative to the patentee as a valid one, and as troublesome to the public. As far as my own experience goes, nearly all the chemical patents, which I am fully acquainted with, would be pronounced invalid, as they at present stand, if brought before a legal tribunal. But, speaking for myself, rather than risk the annoyance and loss of time caused by a law-suit, I would rather either submit to pay a small royalty if I required to adopt them in my business, or forego the use of them altogether. This shows the irrelevance of the statistics brought forward to prove that the Patent Law does not give rise to excessive litigation. What we manufacturers complain of is, not that many cases are brought before legal tribunals, but that the fear of litigation enables patentees to levy black mail from us for royalties on patents which we know to be invalid. I am inclined to the opinion, on the whole, that the only perfect remedy will be found in the abolition of patents. But I am free to admit that if patents were entirely abolished some evils would arise, and although great inventions would continue to be made, and the progressive improvement of manufactures would be facilitated, it is quite possible that one class of inventions might be prevented or rather retarded. I allude to such inventions as require great time and money to perfect."



A SPECIAL meeting of the chemists and druggists of Sheffield and neighbourhood, was held on March 15th, in the rooms of the music hall, to consider the attitude of the Council of the Pharmaceutical Society towards institutions for pharmaceutical education in the provinces. It appeared that in the session of 1870-71, the Sheffield Association had arranged a very complete course of classes for the study of chemistry, botany and Materia Medica, being of opinion that they could receive help from the parent institution. On the 30th November of that year they applied for a grant of £21, and received a reply from the Council in London, stating that, while they were willing to give assistance to enlarge the library or purchase diagrams, money could not be granted for augmenting lecturers' fees. The request was repeated in September, 1871, but with the same unsatisfactory result. Another request was made in October of the same year for the exact deficit, which was shown to result from the engagements entered into with the lecturers, on the faith of receiving help, the sum amounting to £13 10s.; this likewise met with a refusal. Fifteen guineas was the difference between the amount realized by students' fees and the sum guaranteed to the lecturers, and, as stated by the chairman, the local association had to pay the money. Resolutions were passed advocating the expenditure of money by the Pharmaceutical Society on provincial education, and it was also resolved to nominate Mr. W. V. Radley, the President of the Sheffield Chemists' and Druggists' Association, to the Council of the Pharmaceutical Society.

OBITUARY.—The death (on the 27th of March) is announced of Mr. Thomas Roper, chemist, aged 53. He carried on his business in the house of the celebrated Man of Ross; also of Mr. William Palk, only son and partner of Mr. Palk, chemist, Exeter. We also regret to record the death of Mr. Benjamin Peppercorn, of Lincoln, aged 47.

FIRES.—On Sunday morning, March 17th, a very disastrous fire occurred on the premises of Messrs. Woolley and Sons, wholesale and retail druggists, 69, Market-street, Manchester, by which, damage was occasioned estimated at £20,000. The fire was discovered between 4 and 5 o'clock in the morning, in the warehouse in Swan-court, and the fire brigade were promptly in attendance. By the time of their arrival, the second floor of the warehouse, which was extensively stocked, was in flames, and the fire was rapidly communicating with the upper floors, and to the retail shop in Market-street. By seven o'clock the fire was so far subdued that the use of the steam fire-engine and a number of jets was dispensed with. The building and its contents were almost entirely destroyed, and several of the adjoining buildings were damaged by water. The origin of the fire cannot be ascertained. Messrs. Woolley and Sons are insured in the Lancashire and other offices.

A fire recently occurred at the sulphur works of Mr. Terrow, Lightbody-street, Liverpool. The fire-engines were speedily called out, and the flames were fortunately extinguished without loss of time. The damage is covered by insurance.

A fire recently occurred on premises in connection with the large chemical works of Messrs. Crosfield and Co., of St. Helen's. It raged with great force, and considerable damage was done, although the most strenuous exertions were put forth by the fire brigade and others to stay the progress of the flames. Fortunately the fire was confined to the building wherein it originated, and thus the damage was not so great as it would otherwise undoubtedly have been. The loss is covered by insurance.

On the 30th ult., the chemical works belonging to Mr. J. Lewis, of St. Helen's, were struck by lightning which tore down one of the sheds, demolishing the walls and roof. The building struck by the electric fluid fell against an adjoining cottage, doing considerable damage, and terrifying the persons in the house. The workmen employed on the premises were also seriously alarmed.

GAZETTE.

PARTNERSHIPS DISSOLVED.

ADAMS, W., and W. TURNER, soda-water manufacturers, Winton-green, Birmingham.
 ANDREWS, J., and J. DE LIEFDE, surgeons, Camden-road.
 BELOUGH, H. B., and H. T. PAXTON, drysalters, Gilesgate, Durham.
 BROOKES, P., and Wm. ASHLEY, chemists, Derby.
 CAMPBELL, R. L., and R. Z. C. MILLER, physicians, Stourbridge.
 CARLESS, E., and G. B. CAPEL, manufacturing chemists, Hackney Wick.
 DUDLEY, C., and J. COOKE, medical practitioners, Over, Cheshire.
 EWEN, A., and A. B. EWEN, surgeons, Long Sutton, Lincolnshire.
 GODDARD, J., and J. YOUNG, chemists and druggists, Lolester.
 HARRIS, W. J., and J. GOLDSMITH, surgeons, Worthing.
 KNOWLES, J., and T. WAGGETT, drysalters, Dantzic-street, Manchester.
 LANOMORE, J. C., and F. B. WHITE, medical practitioners, Oxford-terrace, Hyde-park.
 SCHOFIELD, ELIZ., JAS. SCHOFIELD, and JNO. SCHOFIELD, druggists, Watchcote, Fallowfield, Lancashire.
 SHARR, T., and J. THOMAS, glass bottle manufacturers, London-place, London-fields, Hackney.
 STEAD, T., and STEAD, J., drysalter, Heckmondwike, Yorkshire.

BANKRUPT.

BROCK, W. K., surgeon, Llansaintffraid, Montgomeryshire.

BANKRUPTCY ANNULLED.

GIBBS, E. M., manufacturing chemist, White's-row, Whitechapel.

SCOTCH SEQUESTRATION.

DONALD, P. G. and Co., and P. G. DONALD, druggists, Forfar.

Trade Memoranda.

The London depôt of Hoff's malt extract is now at 31, King William-street, E.C.

The chemists of Bristol have taken a very bold step in the right direction, and have issued the following advertisement:—

NOTICE.

EARLY CLOSING OF CHEMISTS.—The BRISTOL PHARMACEUTICAL CHEMISTS' ASSOCIATION desires to call attention to the necessity for earlier hours of Closing, in order that due time may be afforded Pupils and Assistants to prepare for the Examinations now made compulsory under the Pharmacy Act.

In all cases due provision will be made for the Dispensing of Prescriptions and the supply of Medicines urgently needed; but for general business it is proposed to CLOSE, as far as practicable, some cases at SEVEN, and not later than EIGHT o'clock.

The Members of the Association respectfully and very earnestly invite the support of the Medical Profession and the Public in carrying out these proposals, and express the hope that whenever it is possible all orders and Prescriptions be sent in before SIX o'clock p.m.

Signed on behalf of the Association,

CHARLES TOWNSEND, President.

G. F. SCHACHT, Hon. Secretary.

Bristol, March, 1872,

Mr. Beattie has succeeded to the business formerly carried on by Mr. Williams (deceased), and afterwards by Mr. Hudson (bankrupt, since gone to India), in Regent-street, Leamington.

Mr. La Trope has succeeded to the business of the late Walter Lacey, of Highbury-park, Bristol.

Mr. Sloman has succeeded to the business of the late Lewis Badham, of Torquay.

Mr. Morgan succeeds to the business lately carried on by Mr. Lindsey, of Taunton.

Mr. Matthias has taken the business of Mr. Dale (bankrupt), Weston-Super-Mare.

The following gentlemen were admitted members of the Wakefield Chamber of Commerce—Mr. J. L. Chaplin and Mr. J. Taylor, chemists, Wakefield.

THE duty on chloroform imported into this country is (according to the intimation of the Lords of the Treasury) to be charged at three shillings per pound, instead of two shillings as formerly. The two-shilling duty was fixed in August last.

IMPORTANT TO SHEFFIELD CHEMISTS.—The following has been sent us (*Sheffield Telegraph*) for publication by a gentleman residing in Sheffield:—"Last week I had occasion to go into a respectable druggist's shop in this town, and applied for four ounces of gentian root, in order to make some bitter gentian 'tea' for myself and family. Not suspecting anything wrong, I took the supposed gentian home, and brewed about half of the root in boiling water. When it was cold the whole of us (six in number) partook of it, and in a very short time we were seized with a violent burning sensation in the throat, which increased rapidly. Fearing I had made some mistake I sent for the nearest doctor at once, when, on his arrival, he pronounced that we were all poisoned. On examining the remainder of the root I found pieces of aconite root (monkshood) mixed with the gentian. He at once applied the usual remedies, and, thank God! saved our lives. Surely it is time that something were done to protect the public from being exposed to such risks as we have been subjected to through the ignorance of young men, who are allowed to deal out these deadly herbs, and who cannot distinguish them from such a simple one as gentian."

SALE OF SECRET REMEDIES BY HOMŒOPATHIC CHEMISTS.—At a meeting of the Liverpool Homœopathic Medico-Chirurgical Society held in the dispensary, March 6th, 1872, the sale of secret or quack remedies by homœopathic chemists was discussed, and it was unanimously agreed that the Secretary forward the following resolution to each of our chemists.

Resolved: "That the medical men practising homœopathy in this neighbourhood protest in the most positive manner against the sale, in connection with homœopathy, of any secret remedies such as "glykaline," "neuraline," "substitute for cod-liver oil," and the like, and they request the discontinuance of such practice."

(Signed) JOHN W. HAYWARD, Pres.
 P. PROCTOR, Hon. Sec.

British Journal of Homœopathy.

It is somewhat amusing to observe the self-satisfaction with which our "Medico-Chirurgical" friends condemn what they are pleased to term secret remedies, and yet with the utmost complacency go on prescribing aconite, belladonna, or opium, as if the secret of the composition and virtues of these medicines were not as far hidden from them as "glykaline."

NOVELTY IN SHOP DECORATION.—A special correspondent has written for us an account of a remarkable chemist's shop recently fitted up for Mr. T. W. Townson, at Altrincham, near Manchester, and under his personal superintendence. It is particularly striking as an entire departure from the stereotyped mode of druggists' shop fitting. The ornamentation of the cabinet work is done by champhering and inlaying with coloured woods, which is more easily kept clean than mouldings and carvings. Mr. Townson intrusted the work to a cabinet maker of Altrincham, with instructions to fit up the shop unlike any other, elegant, artistic, good, and thoroughly adapted to the business, and the whole of the decoration to be executed by local tradesmen. The shop is about 24 feet square, and is fitted on each side with upright cases 8 feet 6 inches high, the lower portion being 2 feet 10 inches and the upper 4 feet 10 inches, supported on ebony inlaid brackets, forming a recess, the back of which is composed of encaustic tiles of Greek pattern. The cases are divided into two compartments of 3 feet 6 inches each by pilasters, richly inlaid, with blue jasper medallions in the centre, supporting a fine cornice. The cases are enclosed with doors, eight of which have satin-wood panels decorated to represent inlays of various coloured woods, others with mirrors and transparent glass—in all eighteen panels. The taste displayed in designing and the skill shown in the execution of the work renders the whole light and agreeable. There are about

One hundred small drawers with Gothic brass handles, which have a pretty effect. The counters on each side of the shop are in the form of the letter L, enclosed with cupboards and drawers, with massive tops of walnut-wood. The pilasters in front of the counter are fine examples of inlaying and twisting. They are ebony inlaid with amboyna and ivory. One side of the shop is devoted to the dispensing of prescriptions, and here is the finest counter, with every modern appliance (even to hot and cold water), enclosed with a screen of walnut 7 feet 8 inches long containing ten panels. The centre is a green marble slab with incised mediæval gold letters, the other panels are inlaid with various devices, and the whole mounted with a remarkable cornice. Poisons are stored in a separate compartment under lock and key. The frontage is very large, the windows draped with damask, and finished with a cornice of walnut-wood and brick. The window bottoms are laid with encaustic tiles. The screens are divided into three rows of work, the upper line consisting of six panels of stained glass, on which are the arms of "The Society of Apothecaries," "The Pharmaceutical Society," "The Town of Altrincham," and "The City of Chester." The next line contains sixteen panels with varied devices in inlaid work, and finishing with a line of lavender flowered tiles. The ends of the windows have large mirrors, which reflect the screens and two monster specie jars six times. The door, panels, and fanlights are of stained glass, with shields bearing the arms of "The College of Physicians" and "The College of Surgeons." The walls, ceiling, and painted ornaments are by Owen, of Bowdon. The style of decoration is a mixture of Greek and Gothic, known as Neo-Greek. The whole of the shop is reflected in a large mirror, which forms the back of a recess, the sides of which are ornamented with two illuminated pillars bearing gas brackets. Mr. Townson resides about a mile further, at Bowdon, where he is building a small rustic cottage, which he intends opening as a branch in connection with "The Medical Hall." This rustic cottage is as pretty in its way as its more *recherché* parent, and has the appearance of anything except a shop. We congratulate Mr. Townson on his taste and spirit, and we see with much pleasure such an indication of the introduction of an artistic fancy into the more prosaic domains of every-day business.

TENDERS ACCEPTED.

The guardians of the Birkenhead Union have accepted the tender of Mr. Lynes, chemist, Oxtou-road, for the supply of drugs to the Union for a period of half a year.

At a recent meeting of the Sheffield Board of Guardians the tenders sent in for the supply of drugs were considered, and it was ultimately decided that the contract should be given to Mr. Alcock, of Moorfields, Sheffield.

The guardians of the Bedminster Board of Guardians (Bristol) have decided to accept the tender of Mr. Farler for the supply of soda at 8s. per cwt.

The contract for the supply of drugs, etc., to the Wantage Union has been secured by Mr. Hiskins.

The guardians of the Aston Union have accepted the tenders of Mr. E. B. Strutt, chemist, Saltley, for the supply of trusses.

PARISH OF BIRMINGHAM.—There were five tenders for supplying drugs, viz.:—Messrs. Burgoyne, Burbidges, and Co., Coleman-street, London; Mr. Thomas Wallis Holdsworth, Priory, Birmingham; Mr. Morris Banks, junr., Bull-ring, Birmingham; Messrs. Harris and Co., Birmingham; and Mr. Walter Robert Jones, Jamaica-row, Birmingham, at the following quotations:—

	Burgoyne, Burbidges, & Co., London.	T. W. Holdsworth, Birmingham.	Morris Banks, junr.	Philip Harris, & Co.	Walter Robert Jones.
Acid, Acetic	s. d. 0 5½	s. d. 0 5	s. d. 0 5	s. d. 0 5	s. d. 0 4½
— Arsenious	1 0	1 0	1 6	0 6	1 8
— Benzoic	0 10½	1 0	1 0	0 11	1 0
— Carbolic Acid (Cal. gall. vert's Medicinal No. 2) lb.	3 2	3 4	2 10	3 4	4 0
— No. 5	4 0	4 0	2 3	4 0	2 6
— Citric	4 2	4 6	4 10	4 6	4 8
— Gallic	6 9	7 6	8 0	8 0	7 6
— Hydrochloric, pure ..	0 3½	0 4	0 6	0 4	0 5

	Burgoyne, Burbidges, & Co., London.	T. W. Holdsworth, Birmingham.	Morris Banks, junr.	Philip Harris, & Co.	Walter Robert Jones.
Acid, Hydrocyanic	s. d. 0 7	s. d. 1 0	s. d. 0 16	s. d. 0 17	s. d. 1 0
— Nitric	0 7	0 7	0 8	0 7	0 9
— Phosphoric, diluted ..	0 7	0 9	1 0	0 7	0 11
— Sulphuric	0 11	0 5	0 2	0 4	0 6
— Sulphurous	0 3	0 5	0 4	0 4	0 5
— Tannic	5 0	5 0	5 3	5 6	5 3
— Tartaric	1 9½	1 10	2 1	2 0	1 10
Aconite, Tincture of (B.P.) lb.	3 4	3 0	3 6	3 2	3 6
— Ether, Sulphuric	5 4	4 3	4 0	4 0	5 6
Almonds, Oil of	1 4	1 5	1 5	1 4	1 6
Aloes & Assafœtida, Pill of lb.	4 6	2 0	..	2 0	2 4
— Myrrh Pill, of	9 0	6 0	..	7 0	8 0
— Barbadoes Powdered lb.	2 9	2 1	2 0	2 0	2 3
— Decoction, Compound ..	3 2	3 0	3 3	3 4	3 9
— Tincture of	2 0	1 10	2 4	2 2	2 4
Alum, Powdered	9 9	10 0	10 0	12 0	8 6
Ammonia, Aromatic Spirit of lb.	2 9	2 0	2 2	2 6	2 6
— Benzoate of	14 0	15 0	10 0	15 0	17 0
— Carbonate of	0 8	0 8	0 8	0 8	0 9
— Fœtid Spirit of	2 10	3 0	2 8	2 6	3 0
— Liquid, Sp. gr. 89 lb.	0 7	0 7	0 8	0 8	0 8
Ammoniacum	1 4	2 0	2 0	1 6	2 0
Ammonium, Bromide of ..oz.	0 7	0 7	0 6	0 8	0 7
— Chloride of ..	..	..	..	..	..
— Powdered	0 8	0 8	..	0 8	0 9
Anise, Oil of	0 10	0 11	1 0	0 10	0 10
Antimonial Powder	1 5	1 10	2 0	1 10	1 9
Antimony Tartarated ..	1 9	1 10	1 10	1 8	1 9
Arsenic acid, Liquor	0 5	0 8	0 10	0 8	0 8
Assafœtida	1 8	1 6	1 6	1 0	1 4
— Tincture of	3 4	2 11	2 9	3 0	3 4
Atropia, Sulphate of	12 0	14 0	7 0	15 0	10 0
Bearberry Leaves	0 4	0 8	1 0	0 9	0 7
Belladonna, Extract of ..	5 3	6 6	6 0	6 8	6 6
— Plaster of	4 9	6 0	4 6	4 0	4 6
— Tincture of	2 2	1 10	2 0	1 10	2 4
Benzoin, Tincture of Comp. lb.	3 4	3 2	3 4	3 2	3 4
Bismuth, Subnitrate	12 6	12 6	13 6	12 6	13 0
Borax, Powdered	1 0	1 1	1 0	1 3	1 0
Broom, Decoction of Conc. lb.	1 3	1 6	1 4	1 4	1 8
Buchu Leaves	0 9	0 11	0 9	0 8	0 9
Burnett's Disinfecting Fluid	4 0	4 0	4 0	4 0	4 0
Calumba Root	0 5	0 6	0 6	0 6	0 8
— Tincture of	2 2	1 10	2 0	1 10	2 2
Camphor	1 4½	1 6	1 6	1 10	1 6
— Com. Tincture of ..	2 4	2 0	1 9	1 10	2 4
Cantharides	7 9	8 0	3 0	8 6	9 3
— Plaster of	4 0	4 0	4 0	4 0	4 0
— Powder of	8 3	8 6	8 2	9 0	7 6
— Vinegar of	2 0	2 4	2 4	1 9	2 0
Capsicum, Tincture of ..	3 0	2 11	3 6	3 0	3 0
Cardamoms, Tincture of Comp.	2 6	2 1	2 4	1 10	2 4
Cascarilla, Bark of	0 6	0 6	0 5	0 8	0 6
*Castor Oil, E. I., Bsst ..	0 6½	0 7	0 7	0 7	0 7½
Catechu, Tincture of ..	2 1	1 10	1 10	1 10	2 4
Chalk and Opium Powder ..	5 4	5 0	6 0	6 6	6 0
— Aromatic Powder of ..	4 6	4 3	3 6	3 8	4 6
— Prepared	0 1	0 2	0 4	0 1½	0 2
Chamomile Flowers	0 10	0 9	1 3	1 0	1 0
Charcoal, Powdered Wood lb.	0 3	0 6	0 4	0 4	0 6
Chloral, Hydrate of	5 10	6 6	6 6	6 0	7 6
Chloralum	0 2	0 8	0 2	0 1½	1 0
Chlorodyne (Collis Brown's)	8 0	7 11	9 0	7 10	8 9
Chloroform (Duncan's) ..	8 3	4 3	4 3	7 9	3 3
— Spirit	3 0	3 2	3 0	2 10	3 4
Cinchona Bark (Calisaya) ..	3 9	4 1	2 4	2 6	5 0
— Tincture of Com. lb.	2 6	2 9	2 8	2 10	3 4
Cinnamon Bark	1 11	3 0	3 0	3 0	2 6
Coal Tar Soap	4 0	3 6	3 8	3 6	3 6
*Cod Liver Oil Bost.	6 0	4 11	5 3	5 0	6 3
Colchicum, Acetic Extract lb.	7 6	10 0	10 0	8 6	10 0
Colchicum, Wine of (Seeds) lb.	2 0	2 0	2 0	1 9	2 2
Collodion, Flexible	3 0	3 6	4 0	3 0	4 0
Colocynth, Comp. Ext. of ..	10 6	9 0	10 0	11 0	12 0
— Powdered	2 0	10 0	12 0	2 0	2 4
Condy's Patent Fluid, Red gal.	6 3	..	5 0	5 0	7 4
Copaiva, Liquor Comp.	1 6	2 0	1 6	3 4	3 3
— Oil of	4 0	2 4	6 0	5 0	5 4
Copper, Sulphate of	0 4	0 5	0 5	0 5	0 4
Cotton Wool	2 9	2 6	1 4	2 0	1 6
Cresote	4 10	4 9	5 0	5 0	5 0
Croton Oil	0 4	0 4½	0 6	0 4½	0 4
Cubobs, Powdered	0 8½	0 8	0 0	0 8	0 8
Dandelion, Extract of ..	1 8	2 0	1 10	1 10	3 0
— Liquor	1 10	2 0	3 0	1 10	2 2
— Root	0 9	0 8	0 4	0 3	0 8
Ergot, Liquid Extract of ..	5 8	6 0	7 0	6 0	6 9
— Powdered	2 1	2 6	2 6	1 9	2 6
— Tincture of	3 2	2 9	2 6	3 0	3 0

	Burgoyne, Burbridge, & Co., London.	T. W. Holdsworth, Birmingham.	Morris Banks, junior.	Philip Harris, & Co.	Walter Robert Jones.		Burgoyne, Burbridge, & Co., London.	T. W. Holdsworth, Birmingham.	Morris Banks, junior.	Philip Harris, & Co.	Walter Robert Jones.
	s. d.	s. d.	s. d.	s. d.	s. d.		s. d.	s. d.	s. d.	s. d.	s. d.
Foxglove Leaves.....lb.	0 8	0 9	0 9	0 8	0 9½	Opium, Morson's Solution of lb.	7 0	8 0	..	12 0	..
— Tincture of.....lb.	2 6	1 10	2 4	1 10	2 6	— Plaster.....lb.	4 4	5 0	4 0	4 0	4 3
Fuller's Earth, Powdered.....lb.	0 2	0 2	0 3	0 2	3 0	— Powdered (Turkey) lb.	26 0	27 0	26 0	29 0	26 0
Galls and Opium Ointment lb.	3 4	2 8	4 6	3 4	4 0	— Tincture of.....lb.	4 4	4 0	4 4	3 10	4 4
— Powdered.....lb.	1 6	1 6	1 3	1 8	1 8	— Wine of.....lb.	5 3	5 0	3 0	5 0	5 4
Gamboge.....lb.	4 2	4 0	5 6	2 10	3 0	Pepper, Confection of.....lb.	1 6	1 8	1 8	1 8	1 8
— Pill of, Compound lb.	3 0	3 0	4 6	4 0	4 10	Peppermint, Oil of, (Hodg. kiss) lb.	16 0	16 0	16 0	16 0	16 0
Gentian, Extract of.....lb.	1 3	1 4	1 6	1 4	1 8	Pitch, Liquid, Ointment of, lb.	0 10	0 9	11 3	1 0	1 2
— Root (cut).....lb.	0 6	0 6	0 6	0 5	0 6	Plaster, Adhesive, on Linen	9 6	3 6	4 0	3 3	4 0
— Tincture of.....lb.	2 2	1 10	2 0	1 10	2 2	— Strengthening on Linen	12 0	7 0	8 0	5 0	6 0
Ginger, Powdered.....lb.	1 4	0 8	0 9	1 0	0 8	— doz. yds.	..	..	..	..	..
— Tincture of.....lb.	3 3	2 11	3 6	3 0	3 2	— doz. yds.	1 10	2 3	2 0	2 3	2 6
Glycerine, Best.....lb.	1 0	1 0	1 2	0 10	1 4	Podophyllum Resin.....oz.	2 2	2 6	2 4	2 0	2 8
Guaiacum Resin.....lb.	1 8	2 0	2 4	1 10	2 2	Poppy, Extract of.....lb.	1 4	1 9	1 6	1 6	1 6
— Tincture of, Am-	3 4	3 0	3 2	3 0	3 4	— Heads.....100	0 9	0 9	0 10	0 8	0 9
moniated.....lb.	0 9	0 11	1 2	1 0	1 0	— Syrup of.....lb.	0 8	0 6	0 8	0 7	0 10
Gum Arabic.....lb.	2 8	1 6	1 6	1 10	2 0	— Syrup of Red.....lb.	1 4	1 4	1 6	1 4	1 6
— Powdered (No. 1) lb.	1 10	0 6	1 0	0 8	0 8	— Acid Tartrate of.....lb.	1 2	1 3	2 0	1 2	1 1
— (No. 2) lb.	..	..	..	..	..	— Bicarbonate of, Powd. lb.	0 9	0 8½	0 9	0 8	0 3½
Hellebore, White, powdered lb.	0 7	1 10	2 4	1 10	2 8	— Chlorate of, Powd. lb.	2 0	2 2	2 6	2 0	2 2
Hemlock, Tincture of.....lb.	2 2	4 6	5 0	5 0	6 0	— Liquid.....lb.	0 3	0 3	0 6	0 3	0 4
Henbane, Extract of.....lb.	4 0	3 6	1 0	1 0	3 4	— Nitrate of, Powd. ....cwt.	42 0	39 0	46 0	45 0	42 0
— Leaves.....lb.	1 6	2 0	1 10	2 4	2 6	— Permanganate of Pureoz.	0 4	0 6	0 6	0 4	0 6
— Tincture of.....lb.	2 4	..	..	..	..	— Sulphurated.....lb.	0 6½	0 8	0 8	0 8	0 10
Honey, Chilian, best.....lb.	0 7	0 9	0 7	0 8	0 7½	Potassium, Bromide of.....lb.	5 0	5 0	6 0	5 3	5 6
Hops, Tincture of.....lb.	2 1	1 10	2 4	1 10	2 3	— Iodide of.....lb.	34 6	36 0	36 6	35 0	37 6
Indian Hemp, Tincture of.....lb.	4 6	5 0	5 0	4 6	4 8	Quassia Chips.....lb.	0 2	0 3	0 6	0 3	0 3½
Iodine.....oz.	3 0	2 9	3 6	2 9	3 0	Quinia, Sulphate of.....oz.	7 9	8 2	8 2	3 0	8 3
Ipecacuanha.....lb.	5 8	6 0	5 3	5 6	5 9	— Muls, White.....oz.	..	7 8	..	..	..
— Powder.....lb.	6 3	6 6	6 6	6 0	6 3	— Unbleached.....	..	6 8	..	..	..
— Comp. lb.	4 6	5 0	4 9	4 6	5 4	Rape Oil.....Gallon	4 9	4 6	4 4	4 3	4 2
— Vinegar of.....lb.	3 0	1 0	2 0	1 4	1 6	Resin, Yellow.....lb.	0 4	0 2	0 3	0 3	0 2
— Wine of.....lb.	2 1	1 9	1 10	1 10	2 0	— Ointment.....lb.	1 3	1 0	1 2	1 2	1 3
Iron, Ammonia, Citrate of.....lb.	3 10	4 9	4 0	4 0	4 2	Rhubarb Pill, Compound ..lb.	4 4	4 0	3 6	4 0	4 9
— Carbonate of.....lb.	0 6	0 8	0 6	0 6	0 7	— Powder.....lb.	8 9	3 0	5 0	5 0	3 9
— Citrate of, and Quinine oz.	2 4	1 9	2 8	1 6	2 0	— Tincture of, Comp. lb.	2 6	3 0	2 8	2 8	3 0
— Strych-	..	..	..	..	..	Roses, Confection of.....lb.	0 10	1 0	1 2	1 2	1 6
nine.....oz.	0 6	0 6	0 6	0 6	0 6	Santonin.....oz.	1 10	2 2	2 4	2 0	2 3
— Perchloride of, Solu. of lb.	0 6½	1 0	0 10	0 4	1 0	Scammony Resin, Powdered, B.P. lb.	17 6	20 0	23 0	18 9	20 0
— Tinc. of lb.	2 8	2 6	3 0	2 2	2 8	Senega Root.....lb.	5 8	6 3	5 6	5 9	6 3
— Sulphate of, Pure.....lb.	0 3	0 3	0 6	0 4	0 4	Senna Leaves, Tinnivelly ..lb.	0 6	0 8	0 8	0 7	1 0
— Syrup of Iodide of.....lb.	2 10	2 9	2 3	2 8	2 11	Silver, Nitrate of, (Crystals) oz.	3 6	3 9	4 0	3 8	3 8
— Phosphate of	..	..	..	..	..	— (Sticks).....oz.	3 9	3 7	4 3	3 9	3 11
Comp. ....lb.	1 4	1 6	1 10	1 6	2 0	Soap, Castile, Powdered ..lb.	1 6	1 3	0 6	1 0	1 4
— Wine of.....lb.	1 9	1 6	1 10	1 6	2 0	— Liniment.....lb.	1 10	2 0	1 8	0 9	2 8
Jalap Powder.....lb.	3 0	3 0	2 4	2 6	3 0	— Pill, Compound.....lb.	12 6	10 0	13 6	9 0	9 0
— Comp. ....lb.	2 4	2 6	2 0	2 6	3 4	— Plaster, on Moleskin	22 6	16 0	20 0	18 0	22 0
Juniper Berries.....lb.	0 2	0 3	0 2	0 2	0 2	Soda, Carbonate of.....lb.	0 2½	0 3	0 3½	0 2	0 2½
— Oil.....lb.	1 10	2 4	2 2	2 0	2 0	— Hyposulphite of.....lb.	0 4	0 4	0 4	0 6	0 3
Lead, Plaster of.....lb.	0 8½	0 8	0 10	0 8	0 8½	— Solution of Chlorinated lb.	0 3	0 3	0 4	0 4	0 5
— Solution of Subace-	..	..	..	..	..	Spermaceti.....lb.	1 5	1 7	1 8	1 10	1 3
tate of.....lb.	0 3	0 3	0 4	0 3	0 4	Spirit of Nitre.....lb.	3 0	2 8	2 8	2 10	3 3
Leeches.....100	12 6	10 0	10 0	10 0	12 6	— Wine, 56 O.P. ....gallon	20 6	..	21 0	21 0	..
Lemon, Oil of.....lb.	18 0	..	22 0	13 0	13 0	— Methylated gallon	3 9	..	4 0	3 9	..
Lime, Chloride of.....lb.	0 2	0 2	0 3	0 2	0 2½	Squill, Oxymol of.....lb.	0 8½	0 7	0 6	0 7	0 8
— Solu. of Chlorinated lb.	0 3	0 2	0 2	0 2	0 3	— Pill, Compound.....lb.	2 6	1 6	2 2	2 3	2 8
Linseed.....lb.	0 3	0 2½	0 3	0 2½	0 3	— Powder.....lb.	0 9	1 0	1 3	1 4	1 1
— Meal.....cwt.	16 6	12 6	14 0	12 9	16 6	— Syrup of.....lb.	0 8	0 6	0 8	0 6	0 9
— Oil.....lb.	0 5	0 5	0 6	0 6	0 4	— Tincture of.....lb.	2 2	1 10	2 0	1 10	2 2
Lint, Best Cotton.....lb.	2 4	2 0	2 0	2 0	2 3	— Vinegar of.....lb.	0 4½	0 6	0 8	0 6	0 5½
Liquor Bels.....lb.	3 0	3 6	7 0	3 6	3 0	Strychnia.....dr.	0 9	1 2	1 3	1 0	1 0
Liquorice Powder.....lb.	0 3	0 6	0 8	0 10	0 10	Sulphur, Confection of.....lb.	1 4	1 0	1 0	1 2	1 2
Lithia, Carbonate of.....lb.	25 0	30 0	23 0	28 0	1 8	— Flowers of.....lb.	0 2	0 2	0 3	0 2	0 2
Lobelia, Etherial Tinc. of.....lb.	6 0	5 0	6 0	4 6	6 2	— Ointment.....lb.	0 10	1 0	0 10	0 9	0 11
Logwood.....lb.	0 2	0 2	0 3	0 1½	0 2	— Precipitated.....lb.	0 3	0 3	0 4	0 8	0 4
Magnesia, Calcined.....lb.	1 6	1 3	1 6	1 6	1 6	Tragacanth Powdser, Comp. lb.	1 8	1 8	..	2 0	1 11
— Carbonate of.....lb.	0 6	0 5	0 5	0 5	0 6	Turpentine, Oil of.....lb.	0 7	0 8	0 8	0 7	0 7
— Sulphate of.....cw.	7 0	8 6	8 6	7 6	9 0	Valerian, Tincture, Ammo- nated lb.	3 4	3 0	3 4	3 0	3 0
Male Fern, Oil of.....lb.	9 0	10 0	12 0	9 6	10 0	— Root.....lb.	0 9	1 0	0 8	0 9	0 9
Mercurial Ointment, Stronglb.	2 2	2 2	2 4	2 4	2 3	Wax, White.....lb.	2 3	2 2	2 3	2 3	2 6
— Pill.....lb.	1 10	2 4	2 2	2 3	2 6	— Yellow.....lb.	1 11	1 10	1 9	1 9	1 8
Mercury, Ammoniated.....lb.	3 7½	3 6	3 8	3 6	3 9	Zinc, Benzoated.....lb.	14 0	5 0	6 0	5 0	5 6
— and Ammoniacum	..	..	..	..	..	— Oxide of.....lb.	0 11	1 0	1 8	0 11	1 4
Plaster.....lb.	3 0	3 0	2 4	2 4	2 9	— Sulphate of.....lb.	0 3	3 0	0 6	0 4	0 4
Ointment of Ni-	..	..	..	..	..	The four Birmingham tenders were accepted, the quantities to be divided amongst them.					
trate of.....lb.	1 7	2 3	1 8	2 4	2 8	AUSTRALIAN and American buyers of perfumery should order samples of Mr. Whitby's (Ede and Co's) new perfumes put up expressly for those markets, and adorned on the labels with their handsome standards respectively.					
— Perchloride of.....lb.	2 10½	3 0	3 0	2 9	2 8						
— Red Oxide of.....lb.	3 7½	3 6	3 8	3 6	3 9						
— Subchloride of.....lb.	3 5½	3 5	3 8	3 5	3 9						
— With Chalk.....lb.	1 6	1 9	1 10	1 7	1 10						
Morpha, Acetate of.....oz.	11 6	12 0	11 6	11 6	11 6						
— Hydrochlorate of oz.	11 6	12 0	11 6	11 6	11 6						
Myrrh, Powdered.....lb.	2 8	2 2	3 0	2 0	2 4						
— Tincture of.....lb.	3 4	2 11	3 4	3 0	3 4						
Oak Bark.....lb.	0 3	0 4	0 4	0 3	0 4						
Olive Oil.....gal.	5 9	5 6	6 0	5 6	5 4						
Opium.....oz.	1 6	1 3	1 8	1 6	1 3						
— Battley's Sedative	..	..	..	..	..	
— Solution of.....lb.	18 0	18 6	18 0	18 0	19 0						
— Dried, for Tincture lb.	24 0	24 0	..	26 0	24 0						

LAW AND POLICE.

A CHEMIST CHARGED WITH MANSLAUGHTER.

At the Exeter Assizes, on March 15th, before Baron Brammell, Robert William Webber, 25 years of age, was indicted for the manslaughter of William Ellis Wall, at Salcombe Regis, on the 22nd July last.

The case was reported in our issue of August 15th, and was briefly as follows:—

The prisoner was acting as assistant to his brother, Charles Farrant Webber, a chemist at Sidmouth. The deceased gentleman had studied medicine, and was in the habit of writing his own prescriptions. On the 22nd of July, he sent to Mr. Webber a prescription for a sleeping mixture, in which was ordered "Sol. morph. mur. ʒss." From the evidence adduced it would appear that the prisoner read the above-quoted line as, "Sal morph. mur." and it was affirmed that he dispensed, not half-a-drachm as ordered, but one scruple of the powder. In sending the mixture by the servant of the deceased, he directed that it should be shaken before taking it. On receiving the medicine, Mrs. Wall at once gave her husband half of it for a dose, and a few minutes after a boy arrived from Mr. Webber, saying that the wrong medicine had been supplied, and bringing another bottle. Three doctors attended Mr. Wall—one by request of the prisoner—and every possible remedy was applied; but in spite of every care and attention, he died between 2 and 3 o'clock the following morning.

Mrs. Wall and two servants deposed to the facts given above, and Drs. Mackenzie, Atkins, and Hodge gave medical evidence. In cross-examining the latter, the prisoner's counsel (Mr. Cole, Q.C.) educed that the word "sol." was not now generally employed, the abbreviation "liq." being almost universally adopted. It was also testified that the prisoner was indefatigable in his exertions to aid the surgeons in restoring life.

In replying on the case, Mr. Clarke, who prosecuted, remarked that additional evidence of negligence was shown by the prisoner, in staying to make up another bottle of medicine, instead of going to Mr. Walls immediately he discovered his error. Had he done so, he would in all probability have arrived in time.

Mr. Cole proceeded to address the court on behalf of the accused. He said no doubt a mistake had been made by the prisoner, but he thought it would be a great mistake if they punished the young man who was standing before them by coming to the conclusion that he had caused the death of the unfortunate gentleman. This prescription was not written by an ordinary man—the word "sol." happened to be in it, and upon that word the mistake was made. That was an incorrect phrase, and from the mistake of the deceased gentleman in using that word there was no doubt he came to such a sad end. It was sad indeed that in these days of common sense medical men should write such stuff as this dog-Latin, with contractions too, so that the mistake of a single letter made the difference of a man's life. Thus the mistake of one letter had been the means of putting an end to a most valuable life; and would not the jury agree with him when he said it was time such a way of writing prescriptions should be put a stop to? Had Mr. Wall put the word "liquor" in the prescription instead of "sol." there could have been no mistake, because then the prisoner would have known that a solution was required, and not salt or powder as it had been called. Then it was said prisoner ought to have known it was a fatal dose, but he (the learned counsel) thought it would be a very strong proposition for a druggist's assistant to sit in judgment upon a prescription of an eminent physician. The prisoner did everything he possibly could to remedy the mistake when he found it out, but unfortunately the medicine was administered immediately it was left at the house. Through that mistake would the jury say that by the laws of the country the accused was criminally responsible. He contended that there was no evidence of such criminal negligence as would render Webber liable. Lord Ellenborough had laid it down that to prove a charge of manslaughter the person indicted must be shown to be guilty of criminal misconduct, arising either from the grossest ignorance or criminal intention. He hoped this case would be a warning, and have the effect

of doing away with that wretched practice of writing dog-Latin, and that his feeble words would be commented on. He would make it criminal to write prescriptions in such a wretched way. He would have them written in common good Saxon English, and then no man could make a mistake. Common sense told them that it ought to be abolished, and as long as it continued accidents would happen. He remembered, when a younger practitioner, a similar case to the present one at Winchester, on which occasion a charming lady of that town lost her life. In that case powder of strychnia, instead of solution, was put into a draught, by one of the most experienced chemists living in Winchester. In that case the prisoner was acquitted. His unhappy client had made the same mistake. He called him unhappy because he must be unhappy to the end of his days, for no man could ever cause a man's death without carrying the thoughts of it to his grave. A man who had any heart to himself felt deeply that he had been the means, however innocently, of taking away another's life.—(The prisoner here burst into tears, and wept bitterly for several minutes.)—He did not wish to appeal to their sympathies, but to their sense of justice. It had been laid down that to substantiate such a charge felonious carelessness must be proved, but he was sure the jury would not say it was felonious to mistake in a prescription the letter "A" of a word for an "O." With regard to the prisoner's conduct in the matter, he had acted in the most commendable manner. If he had liked he might have burnt the prescription and thrown away the part of the first mixture he made up. He was advised to throw away the bottle before the policeman came, but he did not do so. Had he thrown the medicine and the prescription into the fire there could not have been any evidence against him. He felt much anxiety on behalf of his client, for he was a young man, and if convicted of the offence with which he was charged his prospects would be spoilt for life. He thought that the trial was quite enough punishment for him without punishment from the court. It was a mistake without any criminal neglect or gross ignorance, and he thought they would feel it consistent with their duty to say that the prisoner was not guilty of the offence.

In summing up, the learned Judge expressed his thorough concurrence with what Mr. Cole had said as to the impropriety of such important documents as prescriptions being written so illegibly and not in English. I should be heartily glad, he said, if doctors could be made to write them in legible English and at full length. The only way I can account for the present practice is that doctors do much the same thing as certain members of our profession do who write illegible opinions when probably the motive at bottom is that people should suppose they have so much to do that they have no time to write carefully—for certainly next to doctors' prescriptions, lawyers' opinions are the most illegible things written. The learned Judge further remarked that the use of the word "sol." was in itself misleading, inasmuch as "liquor" was the term so generally employed. By seeing the word "sol." the prisoner was almost tempted to read it as "sal." But then, if the prisoner knew that by using "sal" he was giving a dose which would be fatal three or four times over, that should have been sufficient to make him pause. If he did not know that fact, then it would seem that criminal ignorance had been established against him. But that he did know it was evident from the evidence that he had himself discovered his error. The jury must determine, therefore, whether criminal inattention in reading the prescription had been exhibited. No doubt if Sir Wm. Jenner had, in plain, legible writing, described the salt, it would have been rather a bold thing for a chemist to have refused to make it up; but if he (the Judge) were a chemist, and thought in his conscience that Sir William Jenner had made a mistake, he would not have made the prescription up, because he should have known that the consequences would have been fatal. In conclusion, the learned Judge commented on the prisoner's conduct after he had made the mistake. In all respects but one he said, this was most praiseworthy; but he should have hastened to the house of Mr. Wall immediately he found out his error, and left his shop to take care of itself.

The jury retired, and were absent for over two hours, when they returned with a verdict of acquittal. The announcement was received with an outburst of applause,

which was instantly checked. His Lordship said such conduct was very foolish, and he would punish anyone the police could detect as having taken part in it.

DEATH FROM A PATENT MEDICINE.

An inquest was held on March 25th at Leeds, respooting the death of Clara Proctor, the daughter of an upholsterer, residing in John Edward-street, New Wortley. The deceased had been unwell, and had suffered from a bad cough. The mother was recommended by a neighbour to give the child a patent medicine, called "Kay's Compound Essence of Linseed." Accordingly she purchased the medicine, and gave the deceased five drops of the mixture in warm water. This was on the previous Thursday. Soon after taking the dose the child became insensible and was seized with convulsions. Mr. Scott, surgeon, was called in, and found the little thing suffering from what appeared to be poison by opium. The usual remedies were applied, but the child died the same day. Mr. Scott made inquiries into the matter, and the bottle containing the remainder of the mixture was shown to him. He was satisfied that the medicine contained a preparation of opium, and he now stated his confident belief that this poison had caused the child's death. The label upon the bottle stated that for a child twelve months old five drops were to be given, but it did not state what quantity should be given to a child under that age. The mother affirmed that as five drops was the least amount named on the label, she thought this was the proper dose to give; she declared, however, that had she known the medicine contained poison, or was in any way dangerous, she would not have used it. Mr. Pierson, of Wellington-road, druggist, of whom the medicine was obtained, said it was the practice to sell these patent medicines as purchased. There was nothing, he admitted, on the label which would put people on their guard as to using it. In summing up to the jury, the Coroner pointed out that, by the provisions of the Pharmacy Act, a bottle of any mixture containing poison should be labelled to that effect; the object of this stipulation obviously being to secure caution in use. The jury were of opinion that the child had died from the effects of the poison, but did not consider that the mother was culpable. They thought it very dangerous to sell poison without a label; and Mr. Pierson promised that he would in future put on such a label, and also call the attention of the makers to the matter.

In reference to the above case Messrs. Kay Brothers have sent us the following statement:—

"A paragraph has appeared in the Leeds papers containing such inaccuracies and grave errors that, after an inquiry made on the spot by Mr. Harcastle, Chemist, Leeds, Mr. T. Kay, etc., the following facts are submitted:—The age of the child, not stated in paragraph, was twelve weeks, in a delicate state of health, suffering from a whooping-cough, teething, &c. The mother is stated to have purchased the preparation from Mr. Pierson. This is untrue; she did not buy, and never had bought, any at all. The facts are: Mrs. Webster, a neighbour, told her she thought some of Kay's Compound Essence of Linseed would do it good, as it had done to herself. The mother asked 'how much she had taken?' she answered 'a teaspoonful.' The mother thereupon went with a teaspoon (of which some hold two drams) to a Mrs. Hardy's house (not the neighbour who recommended it) and begged a teaspoonful. Mrs. Hardy, who was upstairs, returned by a little girl (her cousin) the teaspoon 'quite full.' The mother did not say what it was wanted for, but carried it home across the street in her hand. Mrs. Hardy had used it for the last two winters, because in the winter of 1870, having been laid up with bronchitis sixteen weeks, and attended by a medical man during that time without benefit, one or two bottles of the preparation quite cured her, and she now always keeps a bottle in the house, which is known to the neighbours. The mother afterwards sent in for the bottle, and it is assumed gave it more. Instead of giving only five drops, which could not do any harm, she probably gave it two teaspoonfuls (which would be equivalent to a delicate adult taking six ounces measured). This is the opinion of the neighbours, and the foreman of the jury admitted that they were of a similar opinion; but, under the painful position of the mother, who could scarcely give her evidence, they compassionately exculpated her. The mother had previously been giving another medicine of a pink colour prescribed by a neighbouring

chemist, which was not mentioned at the inquest. *The mother never saw the bottle, and therefore could not have read the label until after the first teaspoonful had been given, and perhaps a second.* (Query. What has the labelling to do with this case?) A dose of Kay's compound is not poisonous, and therefore does not require to be labelled 'Poison.' The label has been in use the last eight years without complaint. Mr. C. Pierson wishes it to be stated that he never promised the Coroner to label any proprietary medicine Poison, as stated in the paragraph. Now, though the occurrence took place on Thursday, no intimation was sent to Messrs. Kay Brothers until after the inquest on Monday."

RAILWAY THEFT.

At the Birmingham Police-court on the 18th ult., two men in the employ of the London and North-Western Railway Company were committed to prison for six weeks for stealing a bottle containing lemon kali, the property of the company.

ACTION AGAINST A MANUFACTURING CHEMIST.

The case of Westall v. Proudfoot was heard at the late Manchester assizes. The plaintiff, dyer and yarn agent, Liverpool-road, sued the defendant, Mr. Patrick Proudfoot, manufacturing chemist, for damages for false imprisonment.—Mr. Holker, Q.C., and Mr. R. G. Williams appeared for the plaintiff; Mr. J. B. Torr, Q.C., and Mr. Coventry for the defendant.—The plaintiff rented premises in Collyhurst-street from the defendant, who had given him permission to put some sky-lights on the roof to give more light. Some dispute, however, arose between them on account of the plaintiff wishing to have the property in his own hands, because it was going to be bought by the railway company. The defendant withdrew his permission, but the plaintiff said he would go on with it and put it all right at the expiry of his term. The defendant subsequently ordered him to desist, and he would not. He then sent for a policeman, and, according to the version of the plaintiff, he was ordered into custody and taken to Knott-mill Station. The plaintiff's solicitors wrote demanding an apology (to be inserted in the public papers), a donation to the Infirmary, and the payment of costs. He refused, and hence the present action.—The defence was that the plaintiff had not been taken into custody at all, but had simply been taken into the police-station "for the advice" of the inspector.—The jury did not believe this view of the case, and returned a verdict for the plaintiff, damages £150.

ATTEMPTING TO STRANGLE A WIFE AND TO CUT HER THROAT.

John Platt, a chemist's assistant, residing in the Hornsey-road, was summoned by his wife, Fanny Platt, for having unlawfully assaulted and beaten her, and further with attempting to strangle her, and also with attempting to cut her throat. This was a prosecution supported by the Associated Institute for Improving and Enforcing the Laws for the Protection of Women, and the evidence showed that the wife had been subjected to great cruelty by the defendant, who had been previously convicted and fined for assaulting her. She stated that she had been compelled to leave him and go home to her parents in Bedfordshire. She had four children, one of whom she had taken with her, and the other three were kept by him and a woman with whom he was cohabiting, and who, she had letters to show, the defendant had brought from the country under the pretence that he was a single man and that he would marry her. On the day previous to the assault complained of, she received a letter from the defendant stating that her baby was ill, and she came to town with her mother, met the defendant, and went with him to his residence. When there, she saw a woman, who the defendant said was his wife, and he told her, at the time seizing her (witness) by the throat, to knife her. Her mother loosened his hold, and then the defendant kicked her. He again seized her by the neck, and nearly throttled her. After that he took from his pocket a white-handled knife, said he would rip her up, attempted to cut her throat, and in doing so cut a piece out of one of her fingers. Witness's mother loosened his hold, and then the defendant turned her mother and her out of the house, and they had to sit on the doorstep the whole of the night. The defendant married her before she was 16 years of age, and had treated her most shamefully and badly ever since. He had frequently kicked and illused her, and from his repeated

threats and his constant ill-usage, she was afraid that he would murder her. The defendant, in reply to the charge, said that his wife had very much exaggerated the matter, and remarked that she was a very bad temper, and was in the constant habit of throwing plates and saucers at him. His home, through her, was made a misery to him. Mr. Hannay said he could not help thinking that there must be faults on both sides. He had to consider other persons besides the complainant and the defendant, and that was the three children. He fined the defendant £5 and costs, or in default to be imprisoned and kept to hard labour in the House of Correction for two calendar months. The defendant, who had no money, was removed in custody.

POISONING BY PAREGORIC.

An inquest was held by Mr. Bedford, on April 2, at St. Martin's Vestry Hall, on the body of Mary Dunn, aged 50. Mr. P. Dunn, boot-maker, 65, Drury-lane, stated that deceased was his wife, and they had been married thirty-two years. Soon after marriage she became addicted to intemperate habits. About six weeks ago she left her home without assigning any reason, and had since been in an almost continual state of intoxication, and sleeping in a common lodging-house. Witness had not seen her since the 23rd of March, when she called at his shop for her usual weekly allowance. Mr. Thomas, chemist, 44, Drury-lane, said that during the last twelve years deceased had been constantly in the habit of purchasing paregoric at his shop. She took about six ounces every day, and sometimes twelve ounces, which would contain twenty-four grains of opium. On Good Friday she was supplied with about an ounce to act as a sedative, as she had drunk ten quarts of rum over-night. Police-constable Parker proved finding deceased in an insensible state on Good Friday, and taking her to Bow-street station, where she was at once seen by the divisional surgeon, who ordered her removal to the hospital. The house-surgeon of the hospital stated that, on admission, deceased was suffering from opium poisoning, and, notwithstanding the application of the stomach pump, she died in the evening. The coroner remarked that the police had in this case exercised a proper discretion in consulting a medical man without delay, and that the comments in the public press on this subject had probably done some good. The jury found that deceased had died from opium poisoning, but that the opium had not been taken for the purpose of causing death.

ALLEGED BURGLARY IN SIDBURY.

Information was on March 27 given at the Police-station by Mr. Thomas Skinner, chemist and druggist, Sidbury, to the effect that between the hours of eight and ten o'clock p.m., his premises had been burglariously entered and the following articles stolen:—A gold watch and chain, three silver medals—Crimean, Indian, and American—from the sitting-room; a cash-box containing about £40 in gold in a bag marked "Sidbury," between £10 and £12 in loose gold, £3 or £4 in silver from the bed-room; and about £2 worth of postage stamps, a money-order book, dog check book, and other articles from the front shop. The cash-box had been broken open and the money extracted. Mr. Skinner keeps the post-office at Sidbury. No trace has been found of the thief.—*Worcestershire Herald*.

HEAVY COMPENSATION TO A CHEMIST.

At the Liverpool Spring Assizes the case of Cowl versus the Lancashire and Yorkshire Railway Company was heard. The plaintiff is Mr. George Cowl, Chemist and Druggist, of Heywood, and he sought to recover compensation for serious personal injury sustained by him on the 19th May, whilst travelling in one of the defendants' trains from Heywood. It appeared that on the day in question the plaintiff was a third-class passenger in the defendants' train, which was unduly late, and which ran into a goods train standing at Miles Platting Station. In consequence of this accident plaintiff sustained severe injury, and his condition at the trial was such that he had to be accommodated with a seat while he was giving his evidence. Altogether his income was about 150*l.* per annum; but since the occurrence of the accident he had been compelled to give up his business of chemist,

from which he realized at least three-fourths of his income. The medical evidence on the part of the plaintiff showed that he had sustained serious detriment to the spinal cord, that he should never be as well as he was before, and that two or three years must elapse before he would be able to resume his business. For the defence it was endeavoured to be shown that the injuries which the plaintiff had sustained were less serious than had been alleged, and that he would be so far recovered in the course of six months or a year that he would be able to attend to his business as usual. Ultimately the jury assessed the damages to plaintiff at 700*l.*

Exchange Column.

REVISED TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the publisher of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to "The Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon-street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

Fownes' Chemistry, new, 10*s.* 6*d.* F., 125, Hampstead-road.

Four dozen 1/ tins of Goulding's Flour and Plant Food for 20*s.* Thomas White, Chemist, Launceston.

Lot of Chemical Apparatus and Books. 4/487.

Withering's "British Plants," 4 vols, 7/. 12/487.

A Soda Water Machine by Hayward Tyler and Co., nearly new, cost £60. Davies, Chemist, Pontypriid.

Bentley's "Botany," latest edition, nearly new. Price 8/6. Stead, Albert Cottage, Heckmondwike.

Six dozen wide and narrow-mouth Pints, newly labelled. J. S., Post-office, St. George's-road, Peckham, S.E.

Entire Fittings, Bottles, etc., of small shop. Also good outside Lamp. Elliot, Hitchin, Herts.

Pharmaceutical Journals, complete, unbound, £5. "Chemicus," 3, Arlington-street, London, N.W.

Fly Papers, 50,000 at 9/ per 1,000; sample 1,000, carriage paid, on receipt of stamps. 26/487.

Small Ruhmkoff Coil, also Quart Glass Sliding Battery. Hayland, Chemist, York.

Bowman's "Chemistry," last edition, 4/8. Address, X., 2, Montpellier Exchange, Cheltenham.

Graphoscope for Viewing Works of Art, forms the best Stereoscope also. 21/. Wyles, Bourn.

An excellent Printing Press, Type and Fittings complete. 21/. Send for specimen of work. Wyles, Bourn.

Pill Machine; Dispensing Scales, on stand; Six Volumes *Pharmaceutical Journal*, bound; lot of Trusses. 38/487.

Current *Pharmaceutical Journal*, day of publication. Barter or purchase (10/ per annum). 40/487.

Materia Medica Collection.—About 120 selected specimens of roots, barks, gums, etc., in neat card-board boxes, with descriptive labels attached. Offers wanted. 14/487.

Soda Water Stand, Fig. 62 Maw's list, to be sold for 45/, original price 65/; in very good condition. Apply Thos. Taylor, 81, High-street, Peckham.

Lescher's Materia Medica Cabinet (25/) enlarged, valuable additions, £1. Botanical Vasculum 12 by 8, 3/. Smith's Guido to the Examinations, 3/. Henry Churchill, 147, Castle-street, Reading.

Thirty 3/6 Ross's Hair Restorer. Twenty 1/ Frere's, Berdeaux, "Anchovies in Oil." Eight 1/, five 2/ Livingstone's Gold Restorer. Thirty 1/ Goulding's Plant Food. Cheap for cash. E. Anderson, Post-office, York.

Quantity of Dr. Ridge's Food, Liebig's Malted Food Extract, Du Barry's Food, 2/9. Iceland Moss Cocoa, Hard's Food, and several patents. Proprietor no demand for them. B. Wood, Halifax.

Two handsome Show Jars, gilt covers, with circular mahogany stands, nearly new. Patent goods, lint, various drugs and chemicals. Lists exchanged. S. R., 309, New North-road, N.

Botany. Students supplied with Classified Collections of Dried Plants, representing all the important orders, for 7/6, by Henry Higginson, M.P.S. (1847), Practical Botanist, New Ferry, Cheshire.

Pill Machine, nearly new; quantity Gold-labelled Bottles; twelve 4-lb. Ointment Jars; several Pestles and Mortars; large and small Store Tubs; quantity of useful Stock. Higgins, 159, Goldsmith's-row, N.

15 Globe-shaped Store Bottles, 5 stoppered, the rest plain, for 15/; also a French-polished mahogany Medicine Chest, 22 by 13 by 11 inches, fitted with 40 stoppered bottles. Offers wanted. Foster, 18, Bishopsgate-street, London, E.C.

Seventeen 13½d. Penny's Nervine for 8/; Six 2/9 Barlow's Tic Powders, 7/; Six 13½d. Virginian Gum, 3/6; Six 13½d. Stone's Cholera Mixture, 3/; One Blenkin's Elixir, 8d.; One Jenkins's Salve, 8d. Any of above sent on receipt of cash. J. Floyd, Bury St. Edmunds.

A first-class American Ice-Cream and Soda-Water Apparatus, with beautiful marble stand; Eight Syrup Taps; Bottling and Corking Apparatus, etc. All complete and in first-class condition. Apply to E. G. W., Post-office, Manchester.

Owen's "Compendium," Receipts and Processes, Pharmacy, Chemistry, Confectionery, Perfumery, Cosmetics, Homœopathy, Essences, Wines, latest Discoveries and Improvements. New impression, 13 stamps. Invaluable. Owen, Chemist, Stratford.

Patent Medicines; Photographic Chemicals; sundries, comprising Oil Cisterns, Show Carboys, Stock Bottles, Glass Cases, Scales, Stone Bottles, Hydrometers, etc. A list of all articles for sale will be forwarded on application to Mr. Jacobson, 38, Wallbrook, London, E.C.

122 Stoppered Bottles, 8 ozs. to 40 ozs., labelled. 7 Jars (½-lb.) japanned covers. 2 Six-gallon Carboys and Specie Jar, mahogany stand for ditto. 80 feet veneered Shelving, 6 Step Stands. 12 Glass Jars, gilt covers (½ gallon), for arrowroot, &c., labelled. J. W. C., 1, Madeira-place, Torquay.

Two Counter Cases, each 2½ feet long, 1 foot wide, with slanting shelf at back. 1½ dozen each 1-lb. and ½-lb. pots, tin cover, nearly new. 1 dozen 6d. Fullwood's Annatto, 1 dozen 1/ do., ½ dozen 1/9 do., ¼ dozen 3/ do., ¼ dozen 5/6 do. W. H. S., chemist, 107, Stafford-street, Hanley, Staffs.

Fownes' "Chemistry," 6/. Kemp's "Phasis of Matter," new, cost £1 1/ 6/. Dawson's "Spermatorrhœa," 1/6. P. B. 1864, pocket edition, 1/6. "Salust," 1/4. Entick's "Latin-English Dictionary," 2/4. Ryan's "Formulary," 1/3. Accum's "Experiments," 9d. "Scientific Amusements," 8d. Pair Forceps, lower molar (Clendon) 3/. Surgeon's Lancet, new, 1/6. 3j. Codeia, 2/. All post free. W. Barry, Conduit-street, Leicester.

A Formula for preparing a certain cure for Diarrhœa or Scour in Cattle and Sheep, being the prescription of a retired member of the Royal College of Veterinary Surgeons, who used it in private practice for over twenty years with eminent success. It can be easily prepared, and may with safety be administered to calves or lambs, however young. Copies one guinea each, with full directions for use. Apply to W. W., 48, Claremont-street, Stapleton-road, Bristol. No chemist should be without it.

WANTED.

Cabinet Materia Medica. State lowest price to W. Barry, Conduit-street, Leicester.

Ten gross of Bellows, suitable for insect powder. State size and price per gross. 27/487.

One or two dozen Glass Jars, 12 inches high, with tin covers. Pocket surgical case. 10/487.

A Counter Show Case, with bent glass front preferred; six or seven feet long, or two of half that length. 18/487.

"Pharmacopœia Londinensis." "Pharmaceutical Latin Grammar." F. Curtis, 13, Cornhill, Dorchester.

Fresenius's "Qualitative Analysis." Sixth edition, perfect copy. Benjamin Heald, Sleaford.

Forceps, &c. Instruments used in Vulcanite Work. Good condition indispensable. Gason, Guildford.

Ward's Asthmatic Elixir and Spalding's Liquid Gluc. The address of the makers of the above is wanted, or a stock will be purchased. 22/487.

Vol. xi. Old Series, and vol. xii. New Series, *Pharmaceutical Journal*. State condition and price. "Pharmacologist," 14, Bath-street, Newgate-street, London, E.C.

Soda Water Stand, round or square. Two mahogany Counter Cases, each 1½ ft. long, 8 to 12 in. wide. W. H. S., chemist, 107, Stafford-street, Hanley, Staffs.

Old Fittings, Fixtures, and Contents of a Small Druggist's Shop or open Surgery. Send particulars, number of bottles and sizes, and length of counter, &c., with price, to Y. Z., care of Mr. S. D. Osbourn, carpenter, Swanmore-road, Ryde, Isle of Wight.



THE Budget of 1872 will not be remembered because of any startling trick of financial legerdemain such as Mr. Lowe exhibited in 1870; but, although devoid of sensational elements, it must be regarded as successful. The figures which the Chancellor was enabled to marshal forth bore eloquent witness to a year of unexampled prosperity, and the concessions made to the payers of income tax were no less welcome because in part anticipated. It now appears that the extra twopence in the pound imposed last year was not required by the exigences of the Exchequer; but Mr. Lowe should not be hastily condemned for making provision against emergencies. In taking off the obnoxious twopence he has performed an act of simple justice, and made such reparation as was possible by an opportune concession to the classes on whom the tax has weighed most heavily. The abatement of 80% on all incomes under 300% is an important feature of the Budget, and deserves to be heartily appreciated. Perhaps we may be pardoned for reminding our readers that such an extension has been consistently advocated in these pages when other professed "popular organs" made no sign in the matter.

The only alteration directly affecting commercial interests is the reduction of the coffee and chicory duties by one half. Large holders of the duty-paid articles promptly submitted their case to the consideration of Mr. Lowe, and the right honourable gentleman has intimated that the relief asked for will be accorded to them.

The directors of the Bank of England have found it necessary to raise the rate of discount 1 per cent. within the last 10 days. A very marked falling off in the reserves of the establishment has been chiefly provocative of this action, but other causes have also combined to make the change necessary, viz., the large withdrawals of foreign money, and the increased loan demands.

The intervention of the Easter holidays has not been calculated to rouse the market from the rather lethargic state which was apparent last month. At the drug sales on the 21st of March it was decided to postpone the auctions, which, in due course should have taken place on the 4th inst., till the 11th. The heavy supplies then brought forward necessitated a two days' sale.

OPIMUM hardly maintains the advance reported last month, and the market is not active. From New York we hear, however, that the drug has been active and excited, owing to positive information from Smyrna that the "whole fall planting has been destroyed." Such an extreme statement looks suspicious, and does not seem deserving of ready credence.

CAMPHOR.—Soon after the arrival of the *Chin Chin*, with about 3,000 cases of China, a speculative demand became apparent, and 700 or 800 cases were reported at 87s. 6d. re-weights on the spot. This movement was probably intended to raise the market, but if so it "missed fire," as the demand has continued somewhat limited, at 85s. The Dutch Company's sales are down for the 16th, and the position of this article will then be more apparent.

SOCOTRINE ALOES, of which the market has been almost devoid for some time, were brought forward to the extent of 149 packages, and all sold at extravagant prices, very fine £23 5s., fine, £20 to £20 10s.; rather dark and coarse to good, £10 to £17 10s.

GUMS.—Assafœtida, 90 cases were brought forward on the 21st ult., and all sold, rising from 102s. up to 122s. 6d. for good drop, with other qualities at intermediate prices. There is now a better supply available, and prices must give way when the demand begins to slacken. Gamboge has been fairly inquired for, and has gone off at rather better rates. Benjamin steady, and Myrrh selling at firmer prices.

There is some quantity of Olibanum afloat, and this has tended to lower the market. Dragon's Blood, of fine description, is scarce, and has commanded heavy rates.

SHELLACS have recovered from their temporary dulness, and change descriptions have met an improved demand, at an advance. Regarding the future of this article, it would be hazardous to express an opinion. From Calcutta we hear that the important question of large or small sticklac supplies is being discussed, and, as usual, the most conflicting statements are current. Some state that there is plenty of sticklac available in the interior; others deny this. Careful discrimination between conflicting statements leads us to suppose that the crop is a fair average one.

ESSENTIAL OILS.—Lemon and Bergamot maintain their exceptionable position. At Messina, also, prices are maintained without change, and the stock in the hands of both manufacturers and speculators is reported to be very much reduced.

ANISEED.—Owing to arrivals prices have still further given way, as we anticipated. The business done, however, has been of a limited character, sellers offering afloat at 10s. At the last moment we hear of less money being accepted. Cassia has been rather neglected, but through not being pressed forward has managed to hold its own pretty well. Citronelle, not in much demand, at 2½, but Lemon Grass has improved its position, and early in the month 100 cases sold at 4½ to 4¾, but sellers afterwards required 5d. There is a paucity of supply of Sandal Wood, and holders might put forward with advantage, as the last sold fetched 1s. 7d. to 1s. 9d.

ROOTS.—18 Baskets Pareira Brava offered on the 21st were taken eagerly, the first lot or two at 101s. the remainder rising to 141s.

RHUBARB.—All kinds are generally firmer, the arrivals of late having rather fallen off. Ipœcacuana has moved off freely and is dearer; sound quality being somewhat scarce. Gentian is lower.

Musk not in plentiful supply, and the demand being active has fetched higher rates. VANILLA maintains its advance, and TONQUIN BEANS are worth more money, and are scarce. GUINEA GRAINS have experienced a decided drop, and at auction last month of 235 packages offered, only 23 found purchasers at 45s., the remainder being bought in at 50s. and 55s., or taken out. On the 11th, however, 19 packages out of 22 offered, sold at 47s. to 50s.

SPICES.—Pepper an active demand has prevailed mostly on speculative account. At the latter end of March large sales and re-sales were effected on the spot, amounting to about 15,000 bags Penang commencing at 6d. and rising 6¾ to 6 7-8ths. White has likewise participated in the active movement, and has fetched more money. As we write, however, a reaction is apparent. Mace has further declined about 2d. per lb., and there is little demand. The supplies of ordinary Cochin and Jamaica ginger offered at auction on the 27th ult. met a fair inquiry at firm rates, which are maintained.

CLOVES.—The absence of definite advices as to the rumoured mischief to the crop in Java tends to throw discredit on the report. The stock is very low, being up to the 31st March only 7,456 packages, against 19,448 corresponding time last year. Notwithstanding this fact, and the rumour referred to, the market is calm, and prices are but little affected. Such is not the case in New York, however, where the market is active and excited. The demand has been from all classes of buyers, exporters, jobbers, grinders, and crushers, for the oil. It appears that the latter interest has extended, and become one of considerable importance in New York. The principal stocks of cloves in that city are now said to be concentrated in the hands of one house.

DRYSALTERIES.—Galls. The recent large arrivals per the *Nestor* (s.s.), depressed the market, and prices were fully 7s. lower than last month's quotations up to the last sales, when a practical recovery took place.

TURMERIC.—Crop accounts from India are not very favourable, and it is apprehended that the roots have suffered from excessive moisture.

COCHINEAL.—The quantity brought forward at the sales on the 4th inst. was relatively small, although there have been recent heavy arrivals. An improved demand was apparent, and 732 bags of 988 offered were disposed of. Prices of Teneriffe silver showed no alteration, but black ditto and Honduras brought fully previous rates.

SAFFLOWER.—Reports to hand from Calcutta speak of the prospects of the crop favourably. The shrubs, it seems, are getting on fairly, and if there is favourable weather it is probable that there may be as good a turn out as last year. The article has not experienced much attention here, and the sales effected have been on easier terms. A new aniline dye is said to be affecting the consumption.

LINSEED.—The market is steady. Arrivals since the 1st of January amount to 103,021 quarters, against 73,122 quarters in the corresponding quarter last year.

CHEMICALS.—Animation continues to characterise the market, and manufacturers are well employed, export requirements, especially for America, continuing active. Citric acid is quiet at 3s. 10d., but the price is well sustained. Oxalic still in request, and firm at previous quotation. Tartarie slightly easier. Soda Crystals and Bicarbonate have made a slight advance. Bleaching powder remains firm at 17s. 3d. to 17s. 6d., and chloroform has advanced in consequence. Chlorate of Potash Crystals still obtainable at 2s., but the scarcity will probably induce a further rise. It is significant that powdered Chlorate is plentiful, and may be bought for 1s. 11d. This seeming incongruity is explained by the extensive American demand for Crystals only. Iodine has not been the medium of much business lately, but high prices are maintained, and will probably be yet further enhanced. Iodide of Potassium from the makers' hands fetches 35s. Alum is slightly higher, and Mercurials have advanced all round consequent upon the very strong position of Quick-silver. The latter is now firmly held at 11½, and we hear that the Messrs. Rothschild, who hold the absolute sway of the market, will probably "apply the screw" still further, so our readers will do well to send in their orders for mercurials at once.

OILS.—Cocoonut has not been in much request, and has ruled at rather easier rates, the present value of Cochin being 43½, and there are sellers of Ceylon at 37½. Sperm is nominally worth 98½ to 100½. Whale moves off in retail lots at 36½ for pale, and 31½ to 33½ for off-coloured. Pale Seal remains scarce, and holders require 40½. Cod dull at 33½ to 33½ 10s. Pale Shark 34½, and a good business has been done in East India Fish at 28½. The demand for Olive has continued limited. From Naples reports say that the market is in an uncertain position, the flowering of the Olive trees being expected to exercise considerable influence on prices.

Monthly Price Current.

[The prices quoted in the following list are those actually obtained in Mining-lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.]

CHEMICALS.

	1872.		1871.	
ACIDS—	s. d.	s. d.	s. d.	s. d.
Acetic	0 4½	to 0 0	0 4	to 0 0
Citric	3 10	4 0	2 9	0 0
Hydrochlor.	4 0	7 0	4 0	7 0
Nitric	0 5	0 5½	0 5	0 5½
Oxalic	1 2	0 0	0 9	0 0
Sulphuric	0 0½	0 1	0 0½	0 1
Tartaric crystal ..	1 8½	0 0	1 4	1 4½
powdered	1 8½	0 0	1 4½	0 0
ANTIMONY ore.....	270 0	290 0	240 0	280 0
crude	37 0	0 0	36 0	38 0
regulus	60 0	56 10	46 0	48 0
star	62 0	63 0	48 0	50 0
ARSENIC, lump.....	18 6	0 0	15 6	16 0
powder.....	7 3	0 0	6 9	7 3
BRIMSTONE, rough ..	145 0	150 0	160 0	0 0
refined	10 0	10 6	10 0	10 3
flour.....	12 0	12 6	12 0	13 0
IODINE, dry	2 1	2 3	0 10½	0 0
IVORY BLACK, dry... per cwt.	8 6	0 0	0 0	0 0
MAGNESIA, calcined..	1 2	1 3	1 1	0 0
MERCURY.....	220 0	0 0	220 0	222 6
MINIUM, red	21 3	21 6	20 0	21 0
orange	31 6	32 0	31 6	0 0
PRECIPITATE, red	3 7	0 0	3 8	0 0
white	3 5	0 0	3 7	0 0
PRUSSIAN BLUE	0 0	0 0	0 0	0 0
SALTS—				
Alum	165 0	170 0	140 0	0 0
powder	180 0	0 0	145 0	150 0
Ammonia:				
Carbonate	0 7	0 7½	0 6	0 6½
Hydrochlorate, crude,				
white.....	620 0	0 0	440 0	540 0
British (see Sal Ammoniac)				
Sulphate	450 0	0 0	360 0	370 0
Argol. Capc.....	65 0	80 0	50 0	73 0
France	0 0	0 0	0 0	0 0
Oporto, red	24 0	27 0	22 0	24 0
Sicily	60 0	0 0	0 0	0 0
Naples, white	60 0	0 0	0 0	0 0
Florence, white	0 0	0 0	0 0	0 0
red	0 0	0 0	0 0	0 0
Asbes (see Potash and Soda)				
Bleaching powd.	17 3	17 6	14 0	0 0
Borax, crude	60 0	80 0	42 6	60 0
(Tineal)	47 0	65 0	45 0	60 0
British refnd.	98	100 0	68 0	70 0
Calomel	3 4	0 0	3 6	0 0
Copper:				
Sulphate	29 0	34 0	22 6	25 0
Copperas, green	57 6	60 0	50 0	60 0
Corrosive sublimate..	2 9	0 0	2 10	0 0
Cr. Tartar, French, p. cwt.	115 0	0 0	97 6	100 0
Venetian grey	115 0	110 0	105 0	100 0
brown	0 0	0 0	0 0	0 0
Epsom Salts	5 6	6 0	6 0	7 0
Glauber Salts	4 6	6 0	4 6	6 0
Lime:				
Acetate, white, per cwt.	13 6	23 0	12 6	23 0
Magnesia Carbonate ..	42 6	45 0	42 6	0 0
Potash:				
Bichromate	0 8	0 0	0 5	0 5½
Carbonate:				
Potashes, Canada, 1st				
sort	46 6	47 0	31 0	34 6
Pearlshakes, Canada, 1st				
sort	51 6	52 0	40 0	0 0
Chlorate	2 0	0 0	1 1½	0 0
Prussiate	1 7	1 8	1 0½	1 1
red	3 2	3 3	1 9½	1 10
Tartrate (see Argol and Cream of Tartar)				
Potassium:				
Chloride	10 10	11 0	12 6	13 0
Iodide	35 0	0 0	14 6	15 0
Quinine:				
Sulphate, British, in				
bottles	7 9	0 0	7 3	7 6
Sulphate, French	7 6	7 7	7 2	7 3
Sol. Acetate	1 4½	0 0	0 11½	0 0
Sol. Ammoniac, Brit. cwt.	47 0	48 0	41 0	42 0
Salt-petre:				
Bengal, 6 per cent or				
under	30 6	31 3	25 9	26 6
Bengal, over				
per cwt.	29 0	30 3	25 0	25 6
Madras	0 0	0 0	0 0	0 0
Bomb & Kurrachop. ot.	0 0	0 0	0 0	0 0
European	0 0	0 0	0 0	0 0
British, refined	33 6	34 0	30 6	31 0
Soda: Bicarbonate, p.cwt.	16 6	0 0	11 3	0 0
Carbonate:				
Soda Ash	0 3½	0 3½	0 2	0 2½
Soda Crystals per ton	140 0	142 6	97 6	0 0
Hyposulphite	16 0	17 6	13 0	0 0

	1872.		1871.	
	s. d.	s. d.	s. d.	s. d.
Soda:				
Nitrate	16 0	16 3	17 0	0 0
SUGAR OF LEAD, White, cwt.	44 6	0 0	29 0	40 0
Brown	31 0	0 0	26 0	28 0
SULPHUR (see Brimstone)				
VERDIGRIS	1 1	1 3	1 0	1 2
VERMILION, English ..	3 4	3 6	3 6	3 10
China	3 6	0 0	3 6	0 0

DRUGS.

ALGEE, Hepatic.....	per cwt.	70 0	220 0	70 0	210 0
Socotrine	"	120 6	465 0	120 0	25 0
Cape, good	"	15 0	36 0	23 0	28 0
Inferior	"	25 0	34 0	17 6	22 0
Barbadoes	"	75 0	210 0	70 0	200 0
AMBERGRIS, grey.....	oz.	25 0	29 0	25 0	28 0
BALSAM—					
Canada	per lb.	1 5	1 6	0 10	0 11
Capivi	"	2 1	2 2	1 9	1 10
Peru	"	9 3	9 4	9 2	0 0
Tolu	"	1 10	2 0	1 10	1 11
BARKS—					
Canella alba	per cwt.	15 0	25 0	15 0	25 0
Cascarilla	"	22 0	37 0	18 0	22 0
Peru, crown & grey ..	per lb.	1 6	3 1	0 10	2 6
Calisaya, flat	"	3 2	3 4	3 2	3 6
quill	"	3 2	3 4	3 2	3 6
Carthagea	"	0 10	2 7	0 10	1 10
Pitayo	"	0 10	1 10	0 10	1 6
Red	"	1 10	6 9	2 0	7 0
Bucho Leavos	"	0 4	1 0	0 5	0 9
CAMPHOR, China	per cwt.	84 0	85 0	79 0	0 0
Japan	"	85 0	9 0	72 6	0 0
Refin. Eng. per lb.	"	1 4	1 4½	1 2	1 2½
CANTHARIDES	"	7 3	7 6	5 3	0 0
CHAMOMILE FLOWERS ..	p. cwt.	45 0	70 0	40 0	65 0
CASTOREUM	per lb.	3 0	30 0	3 0	30 0
DRAGON'S BLOOD, lp.	p. cwt.	110 0	220 0	100 0	210 0
FRUITS AND SEEDS (see also Seeds and Spices)					
Anise, China Star	pr cwt.	130 0	0 0	110 0	115 0
German, &c.	"	35 0	50 0	48 0	50 0
Beans, Tonquin	per lb.	1 0	1 8	0 9	1 6
Cardamoms, Malabar					
good	"	7 9	8 4	8 0	8 9
inferior	"	7 0	7 6	8 0	9 0
Madras	"	2 6	7 9	6 0	7 6
Ceylon	"	3 0	0 0	2 9	3 0
Cassia Fistula	per cwt.	12 0	30 0	12 0	30 0
Castor Seeds	"	10 0	12 0	10 0	12 0
Cocculus Indicus	"	18 0	19 0	12 6	13 6
Colocyath, apple	per lb.	0 3	0 6	0 3	0 6
Croton Seeds	per cwt.	54 0	60 0	80 0	87 0
Cubeba	"	25 0	27 0	25 0	27 6
Cummin	"	50 0	60 0	90 0	100 0
Dividivi	"	16 6	17 0	12 0	13 0
Fenugreek	"	11 0	21 0	15 0	20 0
Guinea Grains	"	45 0	0 0	23 0	24 0
Juniper Berries	"	11 6	12 6	15 0	15 6
Myrobalans	"	14 0	18 0	10 0	15 6
Nux Vomica	"	10 6	13 6	10 6	13 0
Tamarinds, East India ..	"	2 0	14 0	8 0	12 0
West India, new	"	12 0	30 0	8 0	14 0
Vanilla, large	per lb.	41 0	55 0	30 0	42 6
inferior	"	23 0	39 0	15 0	27 0
Wormseed	per cwt.	0 6	0 0	0 0	0 0
GINGER, Preserved, in bond					
(duty 1d. per lb.)	per lb.	0 6½	0 10½	0 6	0 8
GUMS (see separate list)					
HONEY, Chili	per cwt.	50 0	57 0	36 0	46 0
Cuba	"	35 0	50 0	22 0	36 0
Jamaica	"	40 0	58 0	31 0	52 0
IPERCACUANHA	per lb.	5 6	5 9	5 2	5 3
ISINGLASS, Brazil	"	2 5	4 6	2 10	4 6
Tongue sort	"	3 2	5 2	3 8	5 1
East India	"	1 4	3 10	1 7	4 0
West India	"	3 8	3 11	3 10	4 4
Russ, long staple	"	6 0	9 6	5 6	8 0
leaf	"	3 6	6 6	3 0	5 0½
Simovia	"	2 0	3 6	2 0	3 6
JALAP, good	"	1 6	2 8	1 9	3 2
Infer. & stems	"	0 6	1 5	0 6	1 7
LEMON JUICE	per degree	0 1	0 11	0 1	0 1
LIQUORICE, Spanish	per cwt.	35 0	37 0	0 0	0 0
Italian	"	40 0	60 0	40 0	60 0
MANNA, flaky	per lb.	3 3	3 6	3 6	4 0
small	"	2 0	0 0	2 0	2 2
MUSK	per oz.	20 0	48 0	21 0	27 6
OILS (see also separate list)					
Almond, expressed	per lb.	1 3	0 0	1 1	0 0
Castor, 1st pale	"	0 5½	0 5½	0 4½	0 5
second	"	0 5	0 5½	0 4½	0 4½
infer. & dark	"	0 4½	0 4½	0 4	0 4½
Bombay (in casks)	"	0 4½	0 4½	0 4	0 4½
Cod Liver	per gall.	5 0	6 0	5 0	6 0
Croton	per oz.	0 3½	0 4½	0 3½	0 4½
Essential Oils:					
Almond	per lb.	25 0	0 0	42 0	0 0
Anise-seed	per lb.	10 0	0 0	0 0	0 0
Bay	per cwt.	75 0	70 0	66 0	70 0
Bergamot	per lb.	8 6	18 0	8 0	15 0
Cajuput, (in bond)	per oz.	0 1½	0 3	0 2½	0 3
Caraway	per lb.	5 6	6 3	5 6	6 3
Cassia	"	5 8	5 9	4 6	4 7
Cinnamon	per oz.	0 10	6 6	1 0	4 6
Cinnamen-leaf	"	0 4	0 6	0 2	0

1872.				1871.				1872.				1871.			
Essential Oils, continued:—								Oils, continued:—							
s.	d.	s.	d.	s.	d.	s.	d.	£	s.	£	s.	£	s.	£	s.
Citronelle.....per oz.	0	2½	to	0	0	0	2	to	0	2½	to	0	0	0	2½
" " " " " "	0	0	0	0	0	0	2½	to	0	0	0	0	0	0	2½
Clove.....per lb.	3	3	0	0	0	2	5	0	0	0	0	2	5	0	0
Juniper....."	1	9	0	2	0	1	0	0	0	0	0	1	0	0	0
Lavender....."	3	6	0	6	0	3	0	0	4	8	0	3	0	0	4
Lemon....."	10	0	0	18	0	5	0	0	0	6	0	5	0	0	6
Lemongrass.....per oz.	0	4½	0	5	0	0	2½	0	8	0	0	0	2½	0	8
Neroli....."	0	5	0	0	6	0	5	0	0	6	0	0	5	0	0
Nutmeg....."	0	4½	0	8	0	0	5	0	0	6	0	0	5	0	0
Orange.....per lb.	7	0	0	8	0	5	0	0	7	0	0	5	0	0	7
Otto of Roses.....per oz.	12	0	0	21	0	12	0	0	20	0	0	12	0	0	20
Patchouli....."	4	0	0	0	0	3	0	0	0	0	0	3	0	0	0
Peppermint:															
American.....per lb.	13	6	0	14	6	15	6	0	17	0	0	15	6	0	17
English....."	30	0	0	33	0	33	0	0	34	0	0	33	0	0	34
Rosemary....."	1	0	0	2	0	1	9	0	2	0	0	1	9	0	2
Sassafras....."	3	0	0	3	6	3	0	0	0	0	0	3	0	0	3
Spearmin....."	4	0	0	16	0	4	0	0	16	0	0	4	0	0	16
Thyme....."	1	10	0	2	0	1	10	0	2	0	0	1	10	0	2
Mace, expressed .. per oz.	0	1½	0	3	0	0	1½	0	3	0	0	0	1½	0	3
Opium, Turkey.....per lb.	20	0	0	21	0	28	0	0	30	0	0	28	0	0	30
inferior....."	12	0	0	19	0	16	0	0	27	0	0	16	0	0	27
Quassia (bitter wood) per ton	80	0	0	82	6	60	0	0	70	0	0	60	0	0	70
Rhubarb, China, good and															
fine.....per lb.	2	3	0	6	0	2	0	0	5	0	0	2	0	0	5
Good, mid. to ord. "	0	5	0	2	0	0	3	0	1	9	0	0	3	0	1
Dutch trimmed .. "	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Russian....."	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROOTS—Calumba.....per cwt.	23	0	0	40	0	25	0	0	42	0	0	25	0	0	42
China....."	24	0	0	0	0	25	0	0	28	0	0	25	0	0	28
Galangal....."	17	0	0	18	0	15	0	0	17	0	0	15	0	0	17
Gentian....."	20	0	0	22	0	60	0	0	65	0	0	60	0	0	65
Hellebore....."	30	0	0	32	0	22	0	0	30	0	0	22	0	0	30
Orris....."	05	0	0	75	0	65	0	0	68	0	0	65	0	0	68
Pellitory....."	60	0	0	53	0	53	0	0	60	0	0	53	0	0	60
Pink.....per lb.	0	9	0	1	3	0	7	0	1	0	0	0	7	0	1
Rhatany....."	0	4	0	0	11	0	5	0	0	11	0	0	5	0	0
Seneca....."	5	3	0	0	0	4	0	0	5	0	0	4	0	0	5
Snake....."	1	2	0	1	3	0	11	0	1	0	0	0	11	0	1
Saffron, Spanish .. "	30	0	0	42	5	35	0	0	44	0	0	35	0	0	44
Salep.....per cwt.	170	0	0	200	0	110	0	0	0	0	0	110	0	0	0
Sarsaparilla, Lima per lb.	0	8	0	0	11	0	6	0	0	7½	0	0	6	0	0
Para....."	1	0	0	1	3	1	0	0	1	3	0	1	0	0	1
Honduras....."	1	2	0	1	8	1	1	0	1	8	0	1	1	0	1
Jamaica....."	1	7	0	2	11	1	7	0	3	2	0	1	7	0	3
Sassafras.....per cwt.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soamony, Virgin .. per lb.	25	0	0	32	0	25	0	0	29	0	0	25	0	0	29
second & ordinary "	10	0	0	25	0	10	0	0	23	0	0	10	0	0	23
Senna, Bombay .. "	0	2	0	0	5	0	3½	0	0	5½	0	0	3½	0	0
Tinnivelly....."	0	2½	0	1	4	0	4	0	1	6	0	0	4	0	1
Alexandria....."	0	3½	0	1	7	0	4	0	1	7	0	0	4	0	1
Spermace, refined.. "	1	0	0	0	0	1	6	0	1	7	0	1	6	0	1
American....."	1	2	0	1	3	1	3	0	1	4	0	1	3	0	1
Squill....."	0	1½	0	0	2	0	1	0	0	1½	0	0	1	0	0
GUMS.															
Ammoniac drop .. per cwt.	90	0	0	165	0	80	0	0	100	0	0	80	0	0	100
lump .. "	55	0	0	80	0	50	0	0	75	0	0	50	0	0	75
Animi, fine washed "	300	0	0	340	0	250	0	0	320	0	0	250	0	0	320
bold scraped .. "	230	0	0	290	0	200	0	0	240	0	0	200	0	0	240
sorts .. "	160	0	0	260	0	100	0	0	200	0	0	100	0	0	200
dark .. "	100	0	0	160	0	70	0	0	100	0	0	70	0	0	100
Arabic, E. I., fine "															
pale picked .. "	73	0	0	78	0	05	0	0	72	0	0	05	0	0	72
sorts, gd. to fin "	60	0	0	72	0	55	0	0	55	0	0	55	0	0	55
garblings .. "	25	0	0	50	0	25	0	0	47	0	0	25	0	0	47
Turkey, pick. gd. to fin.	160	0	0	200	0	160	0	0	200	0	0	160	0	0	200
second & inf. .. "	85	0	0	150	0	85	0	0	155	0	0	85	0	0	155
in sorts .. "	65	0	0	80	0	70	0	0	90	0	0	70	0	0	90
Gedda....."	30	0	0	42	0	33	0	0	44	0	0	33	0	0	44
Barbary, white .. "	0	0	0	0	0	05	0	0	70	0	0	05	0	0	70
brown .. "	40	0	0	46	0	43	0	0	50	0	0	43	0	0	50
Australian .. "	30	0	0	46	0	20	0	0	42	0	0	20	0	0	42
Assafetida, com. to gd.	35	0	0	120	0	30	0	0	90	0	0	30	0	0	90
Benjamin, 1st qual. "	180	0	0	500	0	160	0	0	400	0	0	160	0	0	400
2nd .. "	150	0	0	210	0	150	0	0	210	0	0	150	0	0	210
3rd .. "	65	0	0	85	0	40	0	0	85	0	0	40	0	0	85
Copal, Angola red "	135	0	0	140	0	120	0	0	140	0	0	120	0	0	140
Benguela .. "	105	0	0	112	0	90	0	0	05	0	0	90	0	0	05
Sierra Leone .. per lb.	0	3½	0	0	11	0	2½	0	1	0	0	0	2½	0	1
Manilla .. per cwt.	20	0	0	87	6	16	0	0	42	0	0	16	0	0	42
Dammar, pale .. "	60	0	0	62	0	00	0	0	61	6	0	00	0	0	61
Euphorbium .. "	15	0	0	17	0	13	0	0	14	0	0	13	0	0	14
Galbanum .. "	200	0	0	250	0	200	0	0	260	0	0	200	0	0	260
Gamboge, pkd. pipe "	300	0	0	340	0	260	0	0	300	0	0	260	0	0	300
Guaiacum .. per lb.	0	9	0	2	10	0	9	0	2	7	0	0	9	0	2
Kino .. per cwt.	60	0	0	90	0	60	0	0	120	0	0	60	0	0	120
Kowrie, reugb. .. "	17	0	0	35	0	25	0	0	30	0	0	25	0	0	30
scraped .. "	36	0	0	90	0	33	0	0	90	0	0	33	0	0	90
Mastic, picked .. per lb.	0	0	0	7	3	6	0	0	7	0	0	6	0	0	7
Myrrh, gd. & fine per cwt.	125	0	0	200	0	120	0	0	160	0	0	120	0	0	160
sorts .. "	85	0	0	120	0	80	0	0	115	0	0	80	0	0	115
Olibanum, p. sorts "	70	0	0	78	0	75	0	0	80	0	0	75	0	0	80
amber & ylw. "	68	0	0	75	0	67	0	0	74	0	0	67	0	0	74
garblings .. "	20	0	0	44	0	10	0	0	44	0	0	10	0	0	44
Senegal .. per cwt.	70	0	0	80	6	65	0	0	85	0	0	65	0	0	85
Sandarac .. "	53	0	0	100	0	55	0	0	111	0	0	55	0	0	111
Shellac, Orange .. "	100	0	0	182	0	122	0	0	140	0	0	122	0	0	140
Iiver .. "	150	0	0	160	0	117	6	0	127	6	0	117	6	0	127
Thus .. "	22	0	0	0	0	20	0	0	25	0	0	20	0	0	25
Tragacanth, leaf. "	200	0	0	450	0	200	0	0	310	0	0	200	0	0	310
in sorts .. "	110	0	0	180	0	110	0	0	180	0	0	110	0	0	180
OILS.															
Alkal, pale.....per tun	£37	0	0	40	0	£37	10	0	0	0	0	£37	10	0	0
yellow to tinged "	85	0	0	36	0	83	0	0	30	0	0	83	0	0	30
brown....."	33	0	0	0	0	31	0	0	0	0	0	31	0	0	0